Pioneer

Service Manual

ORDER NO.
RRV2257

DVD PLAYER

DVD-V7400
DVD-V7300D

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.	Regional restriction codes(Region N0.)
	DVD-V7400	DVD-V7300D			
KU/CA	O	-	AC120V		1
WYV/RB	-	O	AC-220 - 240V	Automatic select	2

CONTENTS

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PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

T – ZZY JAN. 2000

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

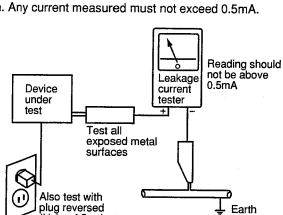
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

IMPORTANT

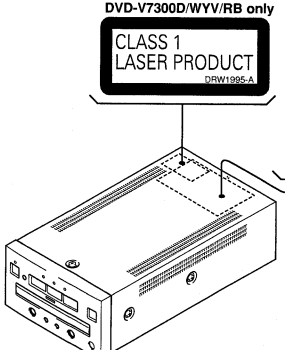
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS

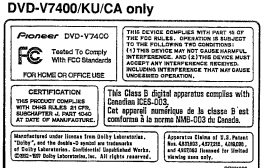
FOR DVD : MAXIMUM OUTPUT POWER 5 mW
WAVELENGTH : 655 nm
FOR CD : MAXIMUM OUTPUT POWER : 5mW
WAVELENGTH : 785 nm

LABEL CHECK

DVD-V7300D/WYV/RB only



DVD-V7400/KU/CA only



Additional Laser Caution

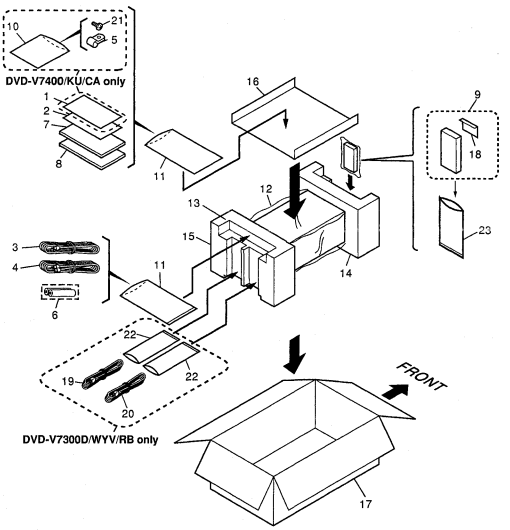
1. Inside detection switch (S201 on the SMEB assy) and loading-status detection switch (S301 on the LOSB assy) are detected by the microprocessor (IC11 in the DVDM assy).
   • To permit the laser diode to oscillate, it is required to set the inside detection switch for the inside position (S201 : ON) and to set the loading-status detection switch for the clamp position (the center terminal of S301 is shorted to +5V). The 655 nm laser diode for DVD oscillation will continue if pin 19 of IC1 is shorted to +5V (fault condition) in the DVDM assy.
   The 785 nm laser diode for CD oscillates if pin 20 of IC1 is shorted to +5V in the DVDM assy.
   In the test mode *, the laser diode oscillates when microprocessor detects a PLAY signal, or when the PLAY key is pressed (S159 ON in the KEYB assy), with the above requirements satisfied.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

*: See page 50.

2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PACKING PARTS LIST

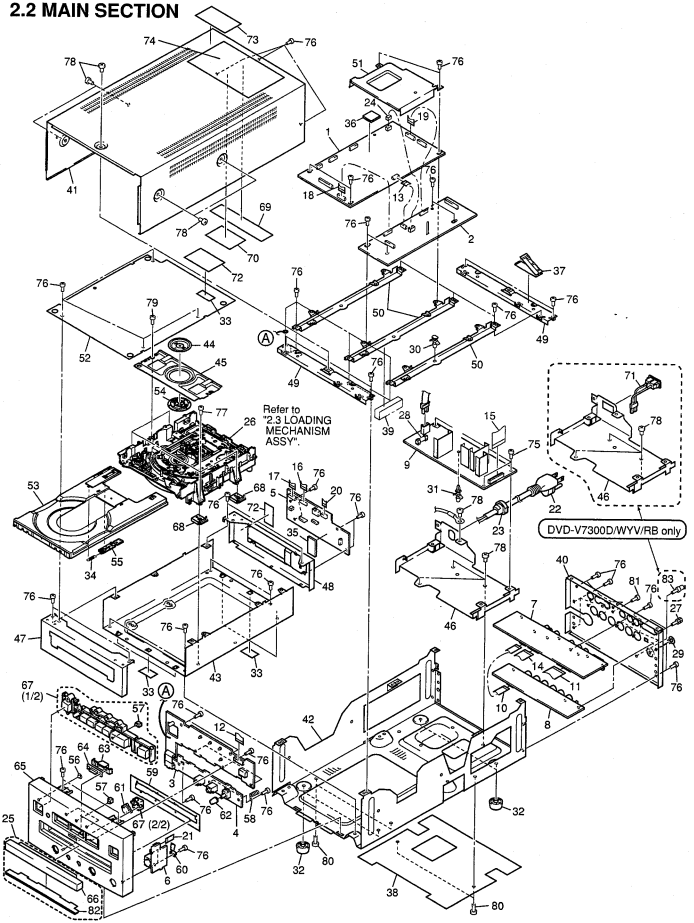
Mark	No.	Description	Part No.
NSP	1	Warranty Card	See Contrast table (2)
	2	Bar Code Sheet	VRY1116
	3	Audio Cord	VDE1033
	4	Video Cord	VDE1048
	5	Nylon Clamp	VEC1988
NSP	6	Dry Cell Battery (LR6, AA)	VEM-013
	7	Operating Instructions (Basic Operations) (English)	See Contrast table (2)
	8	Operating Instructions (Applied Operations) (English)	See Contrast table (2)
	9	Remote Control Unit	DXX2448
NSP	10	Polyethylene Bag (50×70×0.03)	See Contrast table (2)
	11	Polyethylene Bag (230×340×0.03)	Z21-038
	12	Sheet	RHX1006
NSP	13	Cord Bag	See Contrast table (2)
	14	Pad F	VHA1212
	15	Pad R	VHA1213
	16	Partition Plate	VHB1062
	17	Packing Case	See Contrast table (2)
	18	Battery Cover	VNK4403
⚠	19	AC Power Cord	See Contrast table (2)
⚠	20	AC Power Cord	See Contrast table (2)
	21	Screw	See Contrast table (2)
	22	Cord Bag	See Contrast table (2)
	23	Aircap	VHL1048

(2) CONTRAST TABLE

DVD-V7400/KU/CA and DVD-V7300D/WYV/RB are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.		Remarks
			DVD-V7400/ KU/CA	DVD-V7300D/ WYV/RB	
NSP	1	Warranty Card	ARY7031	Not used	
	5	Nylon Clamp	VEC1988	Not used	
	7	Operating Instructions (English) (Basic Operations)	DRB1264	Not used	
	8	Operating Instructions (English) (Applied Operations)	Not used	DRB1268	
NSP	10	Polyethylene Bag (50×70×0.03)	Z21-002	Not used	
NSP	13	Cord Bag	VEG-012	Not used	
	17	Packing Case	DHG1958	DHG1963	
⚠	19	AC Power Cord	Not used	ADG1127	
⚠	20	AC Power Cord	Not used	ADG7004	
	21	Screw	AMZ30P060FZK	Not used	
	22	Cord Bag	Not used	OHL1007	

2.2 MAIN SECTION



• MAIN SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	DVDM Assy	See Contrast table (2)
	2	SUBB Assy	See Contrast table (2)
	3	KEYB Assy	DWG1529
	4	HPIR Assy	DWG1530
	5	SPDB Assy	DWG1532
	6	PS2B Assy	DWG1531
	7	JACB Assy	See Contrast table (2)
	8	EXTB Assy	DWV1185
⚠	9	SYPS Assy	DWR1338
	10	Flexible Cable (10P) (JACB CN653 – EXTB CN751)	VDA1673
	11	Flexible Cable (26P) (SUBB CN102 – JACB CN602)	DDD1168
	12	Flexible Cable (17P) (SUBB CN101 – KEYB CN151)	DDD1169
	13	Flexible Cable (7P) (DVDM CN106 – SUBB CN201)	DDD1174
	14	Flexible Cable (15P) (DVDM CN901 – JACB CN601)	DDD1167
	15	Flexible Cable (26P) (DVDM CN110 – SYPS CN201)	DDD1173
	16	Flexible Cable (24P) (DVDM CN120 – SPDB CN258)	DDD1165
	17	Flexible Cable (12P) (DVDM CN1030 – SPDB CN252)	DDD1164
	18	Flexible Cable (15P) (DVDM CN602 – SUBB CN103)	DDD1162
	19	Flexible Cable (17P) (DVDM CN905 – SUBB CN302)	DDD1166
	20	Flexible Cable (7P) (DVDM CN252 – SPDB CN251)	DDD1163
	21	Flexible Cable (6P) (KEYB CN153 – PS2B CN801)	VDA1670
⚠	22	AC Power Cord (KU)	See Contrast table (2)
⚠	23	AC Cord Stopper	See Contrast table (2)
	24	Housing Assy (2P) (DVDM CN180 – SUBB CN301)	DKP3515
	25	DVD Door Assy-S	DXX2466
NSP	26	Loading Mechanism Assy	VWT1171
	27	Bolt	DBA1078
⚠	28	Fuse (F101: 2A)	VEK1049
NSP	29	Nylon Rivet	DEC1644
	30	Card Spacer	DEC1772
NSP	31	PCB Holder	PNW2100
	32	Foot Assy	PXA1201
	33	Tape (G)	REH1010
	34	Tray Stopper Spring	VBH1277
	35	Radiation Sheet	VEB1279
	36	Radiation Sheet (SILICON)	DEB1444
	37	Clamp	DEC2383
	38	Sheet	VEC1999
	39	Cushion	DEB1199
	40	Rear Panel	See Contrast table (2)
	41	Bonnet	VNA1931
NSP	42	Main Chassis	VNB1037
	43	Sub Chassis	VNB1038
	44	Clamper Plate	VNE2068
	45	Bridge	VNE2069
	46	SYPS Stay	See Contrast table (2)
	47	Shield Stay F	VNE2129
	48	Shield Stay R	VNE2130
	49	Center Stay	VNE2131
	50	PCB Stay	DNE1384
	51	Heat Sink	DNE1389
	52	Cover	VNE2147
	53	Tray	VNL1731
	54	Clamper	VNL1738
	55	Tray Stopper	VNL1739
	56	Lens	PNW1257
	57	LED Lens	PNW2019
	58	Earth Spring	VBH1301
	59	Screen	VEC1977
	60	Earth Plate	VNE2027
	61	IR Window	VNK2246
	62	Volume Knob	VNK3124
	63	Illumination Holder	VNK3917
	64	Illumination Lens	VNK4168
	65	Front Panel	See Contrast table (2)
	66	DVD Door	VNK4224
	67	Operation Key Assy	VXA2360
	68	Loading Base Spacer	DNK3755
	69	65 Label	See Contrast table (2)
NSP	70	Label	VRW-348
⚠	71	AC Inlet AssY	See Contrast table (2)
	72	Caution Label	See Contrast table (2)
	73	Caution Label	See Contrast table (2)
NSP	74	Label	See Contrast table (2)
	75	Screw	BCZ30P080FZK
	76	Screw	BBZ30P080FMC
	77	Screw	BBZ30P100FMC
	78	Screw	BCZ40P060FZK
	79	Screw	BPZ26P080FZK
	80	Screw	PMZ40P080FMC
	81	Screw	AMZ30P060FZK
	82	Door Filter	DEC2382
	83	GND Terminal	See Contrast table (2)

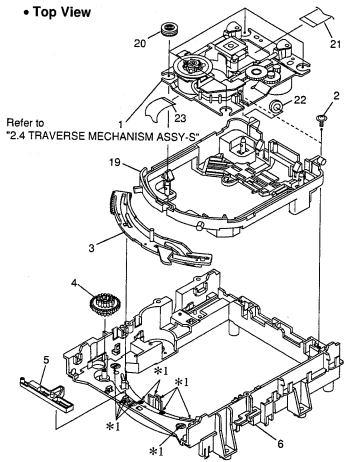
(2) CONTRAST TABLE

DVD-V7400/KU/CA and DVD-V7300D/WYV/RB are constructed the same except for the following:

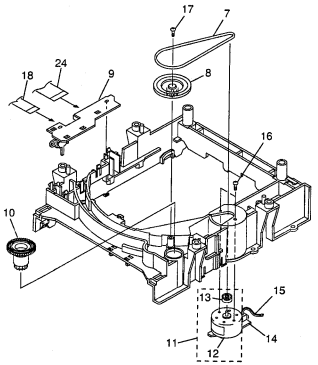
Mark	No.	Symbol and Description	Part No.		Remarks
			DVD-V7400/ KU/CA	DVD-V7300D/ WYV/RB	
	1	DVDM ASSY	DWS1299	DWS1305	
	2	SUBB ASSY	DWG1528	DWG1527	
	7	JACB ASSY	DWV1184	DWV1189	
⚠	22	AC Power Cord (KU)	VDG1073	Not used	
⚠	23	AC Cord Stopper	VEC-201	Notu sed	
	40	Rear Panel	DNA1255	DNA1257	
	46	SYPS Stay	DNE1386	DNE1385	
	65	Front Panel	DNK3749	DNK3753	
	69	65 Label	ARW7050	Not used	
⚠	71	AC Inlet AssY	Not used	VKP2116	
	72	Caution Label	Not used	VRW1699	
	73	Caution Label	Not used	DRW1995	
NSP	74	Label	DRW1986	Not used	
	83	GND Termina	Not used	DKE-102	

2.3 LOADING MECHANISM ASSY

• Top View



• Bottom View



*1: Froil (PN-397)

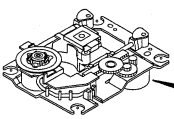
• LOADING MECHANISM ASSY PARTS LIST

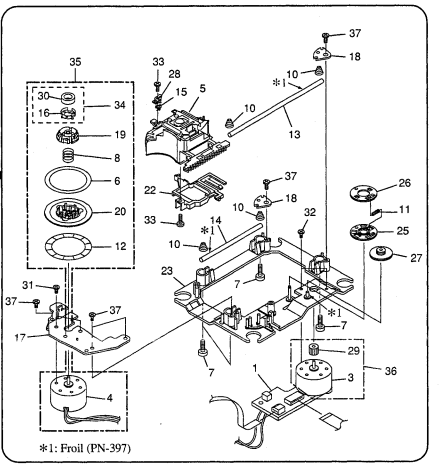
Mark	No.	Description	Part No.
	1	Traverse Mechanism Assy-S	VXX2688
	2	Screw	DBA1006
	3	Drive Cam	VNL1736
	4	Drive Gear	VNL1735
	5	Lock Plate	VNL1820
	6	Loading Base	VNL1844
	7	Belt	VEB1260
	8	Gear Pulley	VNL1733
NSP	9	LOSB Assy	VWG1885
	10	Loading Gear	VNL1734
	11	Loading Motor Assy	VXX2505
	12	DC Motor / 0.3W	PXM1027
	13	Motor Pulley	PNW1634
NSP	14	LOMB Assy	VWG1886
	15	Connector Assy (LOMB CN401 ↔ LOSB CN303)	VKP2198

Mark	No.	Description	Part No.
	16	Screw	VBA1055
	17	Screw	Z39-019
	18	Flexible Cable (08P) (LOSB CN302 ↔ SMEB CN202)	VDA1698
	19	Float Base	VNL1867
	20	Floating Rubber	VEB1286
	21	Flexible Cable (24P) (Pickup Assy ↔ SPDB CN257)	VDA1701
	22	Cushion	VEB1312
	23	Flexible Cable (11P) (SPINDLE MOTOR Assy ↔ SPDB CN255)	DDD1161
	24	Flexible Cable (12P) (LOSB CN301 ↔ SPDB CN253)	DDD1172

2.4 TRAVERSE MECHANISM ASSY-S

• Top View



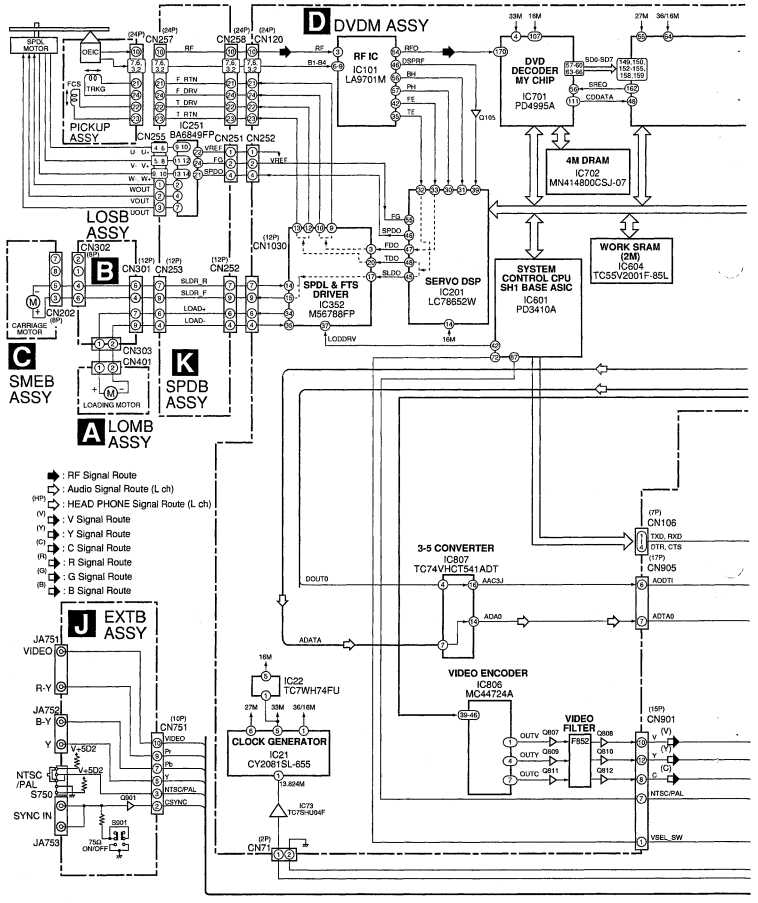


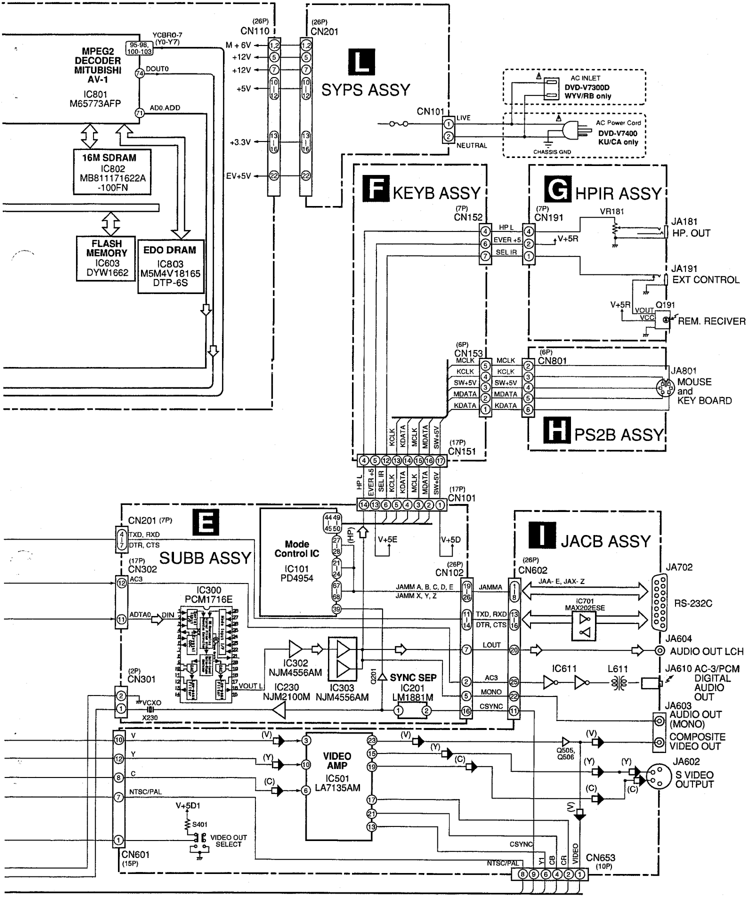
● TRAVERSE MECHANISM ASSY-S PARTS LIST

Mark	No.	Description	Part No.
NSP	1	SMEB Assy	VWG2048
	2	•••••	
NSP	3	Motor	VXM1079
NSP	4	Motor	VXM1073
⚠ NSP	5	Pickup Assy	VWY1055
	6	Table Sheet	DEC2040
	7	Screw	VBA1058
	8	Centering Spring	VBH1278
	9	•••••	
	10	Skew Spring	VBH1303
	11	Gear Spring	VBH1308
NSP	12	Reflected Sheet	VEC1959
	13	Guide Bar	VLL1504
	14	Sub-guide Bar	VLL1505
	15	Hold Spring	VNC1017
NSP	16	Magnet Holder	VNE2070
NSP	17	Motor Base	VNE2218
NSP	18	Cover	VNE2155
	19	Centering Ring	VNL1746
NSP	20	Disc Table	VNL1747
	21	•••••	
	22	FFC Holder	VNL1802
	23	Mechanism Base	VNL1806
	24	•••••	
	25	Gear A	VNL1808
	26	Gear B	VNL1809
	27	Gear C	VNL1810
	28	Slider	VNL1811
	29	Gear D	VNL1814
NSP	30	Magnet	VYM1024
	31	Screw	JGZ20P030FMC
	32	Screw	JGZ17P028FMC
	33	Screw	VBA1051
	34	Magnet Holder Assy	VXX2507
	35	Spindle Motor Assy	VXX2580
	36	Carriage Motor Assy	VXX2650
NSP	37	Screw	PBA1069

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

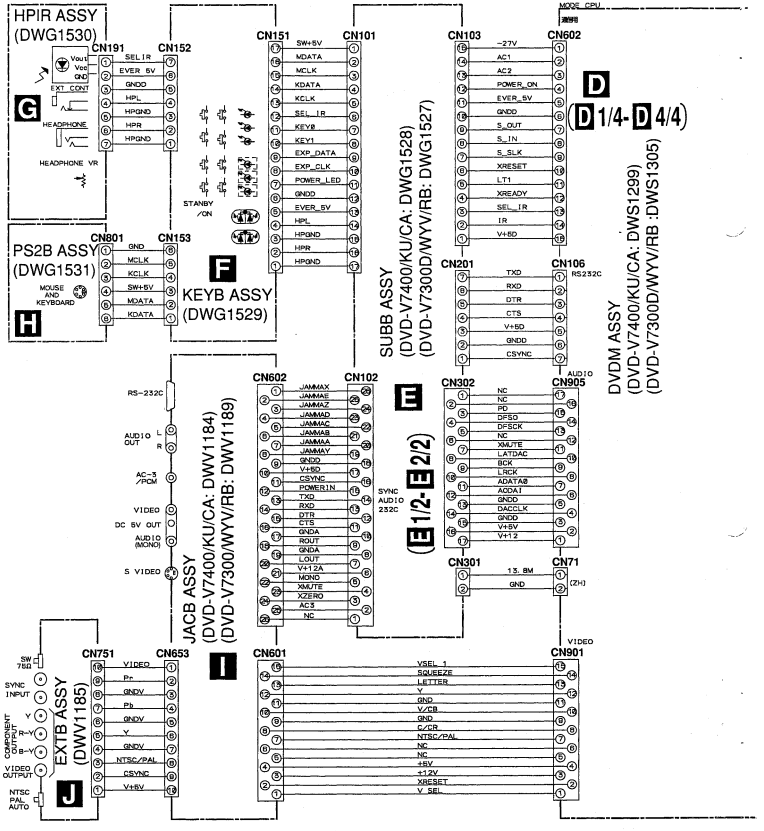
3.1 BLOCK DIAGRAM

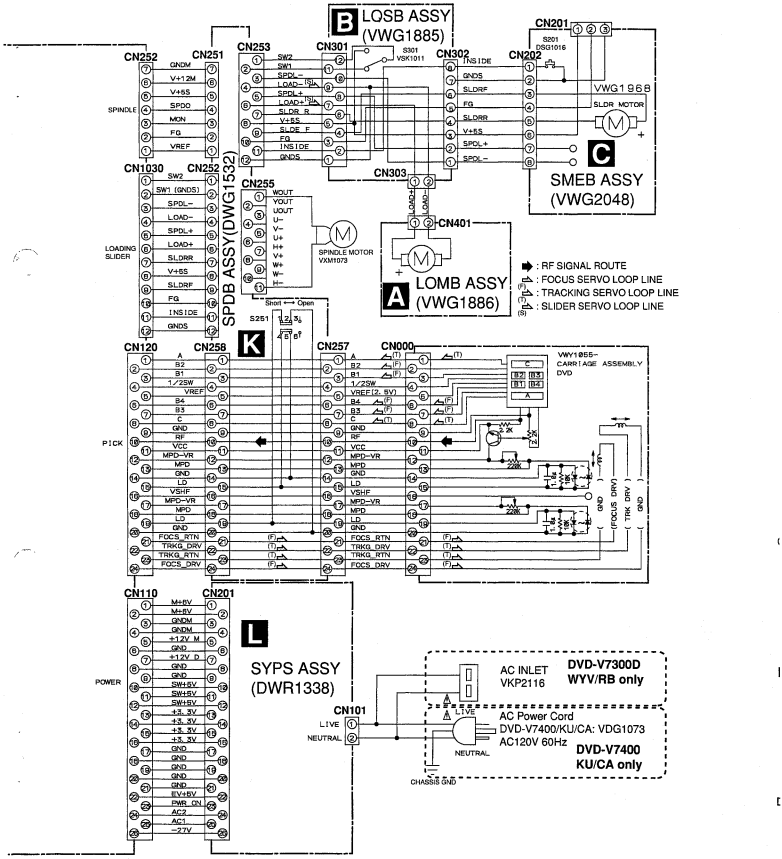



MPEG2 DECODER MITUBISHI AV-1
IC801
M65773AFP
16M SDRAM
IC802
MB811171622A
-100FN
FLASH MEMORY
IC603
DYW1662
EDO DRAM
IC803
M5M4V18165
DTP-6S
CN110
CN201
L
SYPS ASSY
CN101
LIVE
NEUTRAL
AC INLET
DVD-V7300D
WYV/RB only
AC Power Cord
DVD-V7400
KU/CA only
CHASSIS GND
F
KEYB ASSY
CN152
G
HPIR ASSY
CN191
VR181
JA181
HP. OUT
JA191
EXT CONTROL
Q191
REM. RECIVER
CN153
CN801
JA801
MOUSE and KEY BOARD
H
PS2B ASSY
CN151
CN101
E
SUBB ASSY
Mode Control IC
IC101
PD4954
IC300
PCM1716E
I
JACB ASSY
CN102
CN602
JA702
RS-232C
IC701
MAX202ESE
JA604
AUDIO OUT LCH
IC611
L611
JA610 AC-3/PCM DIGITAL AUDIO OUT
JA603
AUDIO OUT (MONO)
COMPOSITE VIDEO OUT
IC302
NJM4556AM
IC230
NJM2100M
IC303
NJM4556AM
SYNC SEP
IC201
LM1881M
VIDEO AMP
IC501
LA7135AM
Q505, Q506
JA602
S VIDEO OUTPUT
S401
VIDEO OUT SELECT
CN601
CN653

3.2 LOMB, LOSB, SMEB ASSYS and OVERALL WIRING DIAGRAM

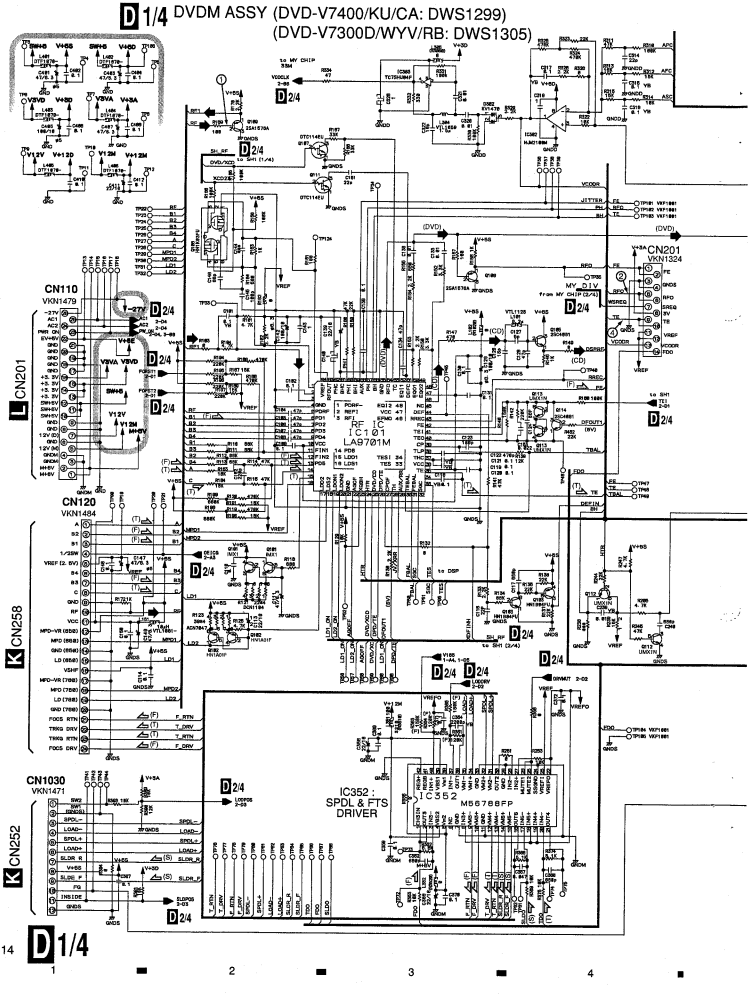
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".




B LOSB ASSY (VWG1885)
S301 VSK1011
CN252
CN251
CN253
CN301
CN302
CN201
S201 DSG1016
CN202
GNDM
V+12M
V+5S
SPDO
MON
FG
VREF
SPINDLE
SW2
SW1
SPDL−
LOAD−
SPDL+
LOAD+
SLDR_R
V+5S
SLDR_F
FG
INSIDE
GNDS
VWG1968
SLDR MOTOR
C
SMEB ASSY (VWG2048)
CN1030
CN252
CN255
CN303
CN401
SW2
SW1 (GNDS)
SPDL−
LOAD−
SPDL+
LOAD+
SLDRR
V+5S
SLDRF
FG
INSIDE
GNDS
LOADING SLIDER
WOUT
VOUT
UOUT
U−
V−
U+
V+
W+
W−
H−
SPINDLE MOTOR VXM1073
A LOMB ASSY (VWG1886)
SPDB ASSY(DWG1532)
Short ⟷ Open
S251
K
CN120
CN258
CN257
CN000
A
B2
B1
1/2SW
VREF(2.5V)
B4
B3
C
GND
RF
VCC
MPD−VR
MPD
GND
LD
VSHF
FOCS_RTN
TRKG_DRV
TRKG_RTN
FOCS_DRV
VWV1855−
CARRIAGE ASSEMBLY
DVD
PICK
22K
2K
(FOCUS DRV)
(TRK DRV)
CN110
CN201
L
SYPS ASSY (DWR1338)
M+5V
M+5V
GNDM
GNDM
+12V_M
GND
+12V_D
GND
GND
SW+5V
SW+5V
SW+5V
+3.3V
+3.3V
+3.3V
+3.3V
GND
GND
GND
GND
GND
IV+5V
PWR_ON
AC2
AC1
−27V
POWER
CN101
LIVE
NEUTRAL
CHASSIS GND
AC INLET VKP2116
DVD-V7300D WYV/RB only
AC Power Cord
DVD-V7400/KU/CA: VDG1073
AC120V 60Hz
DVD-V7400 KU/CA only
: RF SIGNAL ROUTE
: FOCUS SERVO LOOP LINE
: TRACKING SERVO LOOP LINE
: SLIDER SERVO LOOP LINE

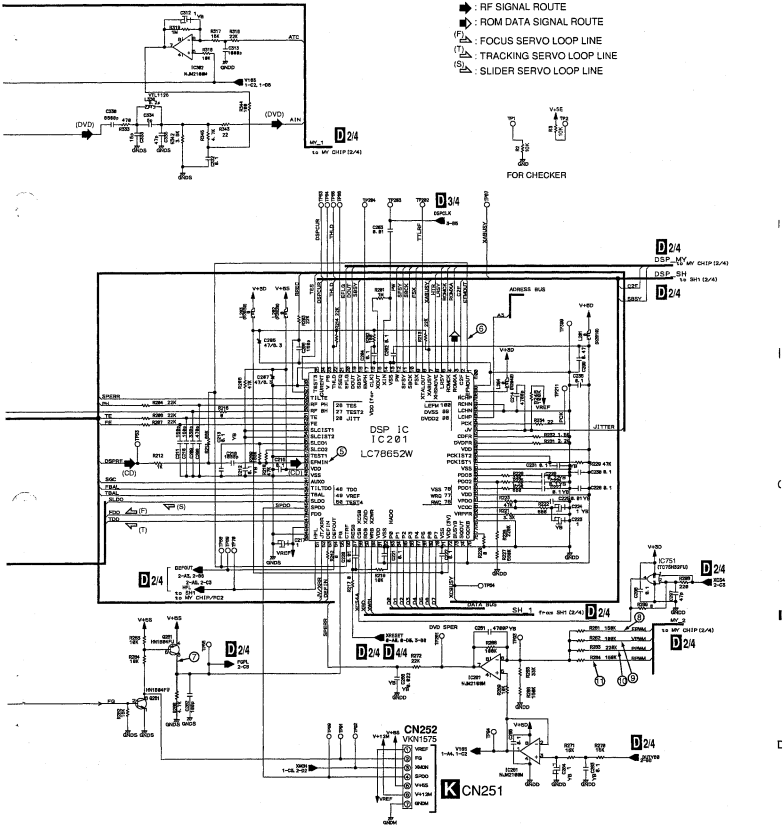
3.3 DVDM ASSY (1/4)

D 1/4 DVDM ASSY (DVD-V7400/KU/CA: DWS1299)
(DVD-V7300D/WYV/RB: DWS1305)



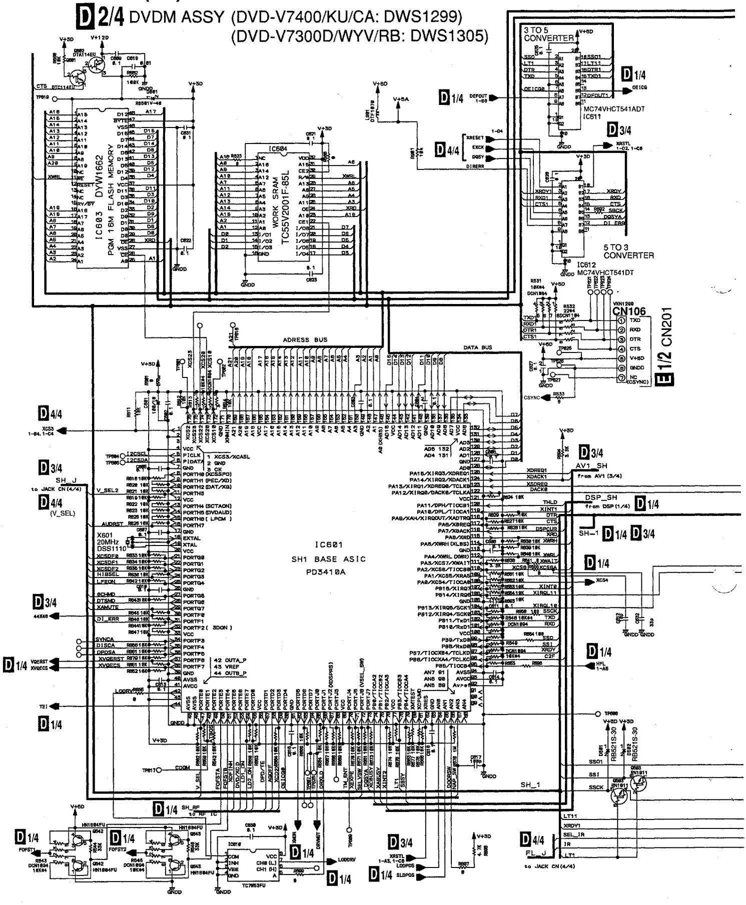
: The power supply is shown with the marked box.

: RF SIGNAL ROUTE
: ROM DATA SIGNAL ROUTE
(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(S) : SLIDER SERVO LOOP LINE



3.4 DVDM ASSY (2/4)

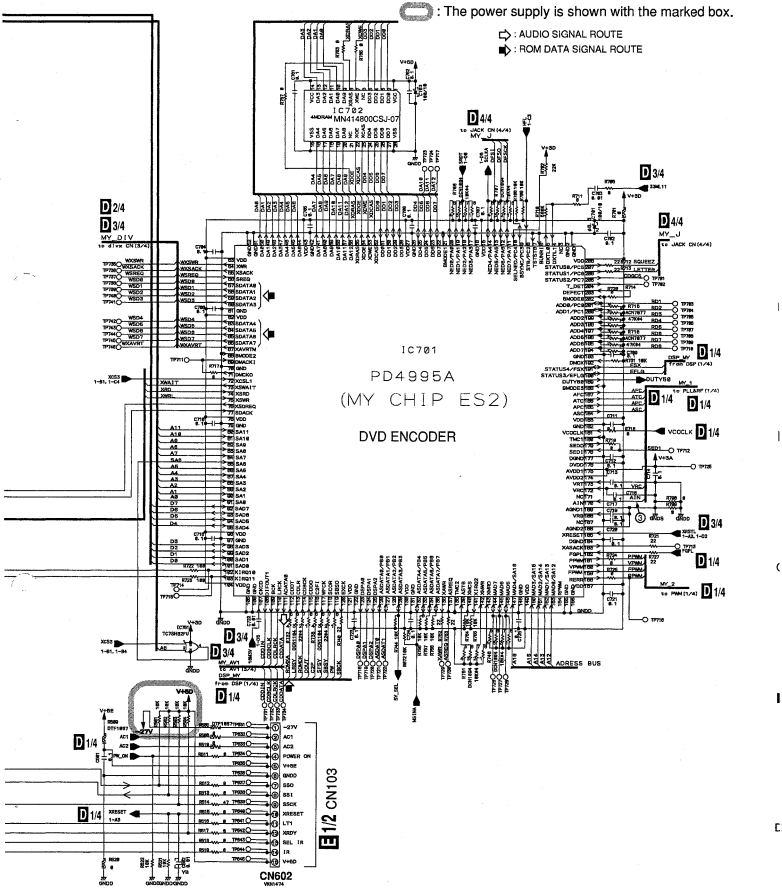
D 2/4 DVDM ASSY (DVD-V7400/KU/CA: DWS1299)
(DVD-V7300D/WYV/RB: DWS1305)



: The power supply is shown with the marked box.

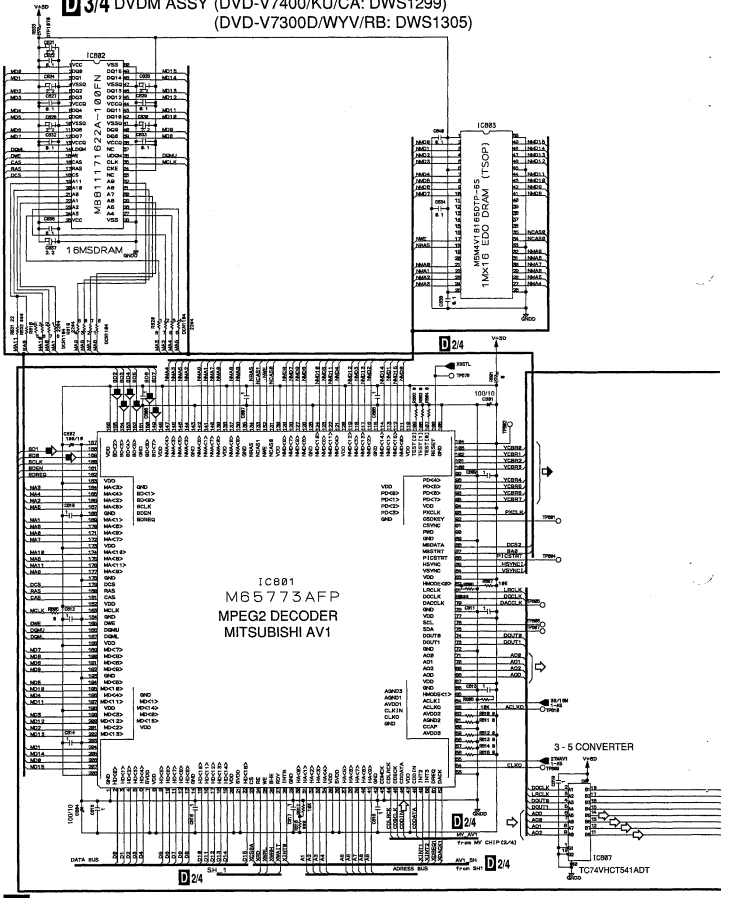
: AUDIO SIGNAL ROUTE

: ROM DATA SIGNAL ROUTE

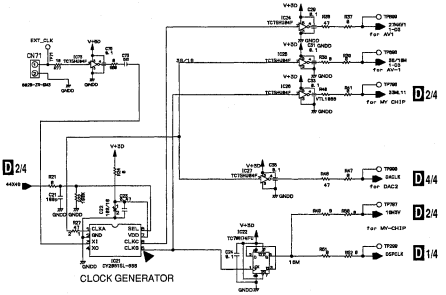


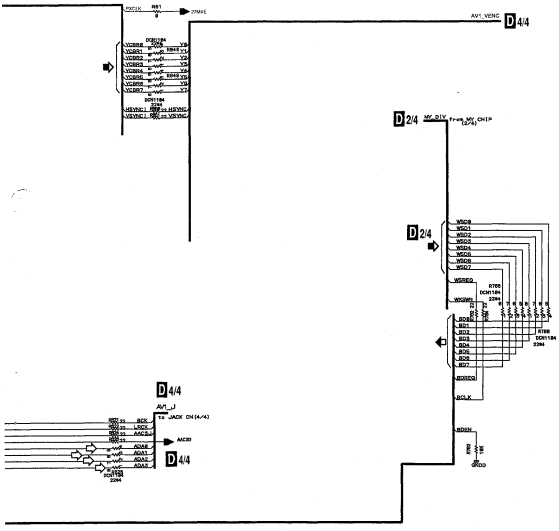
3.5 DVDM ASSY (3/4)

D 3/4 DVDM ASSY (DVD-V7400/KU/CA: DWS1299)
(DVD-V7300D/WYV/RB: DWS1305)



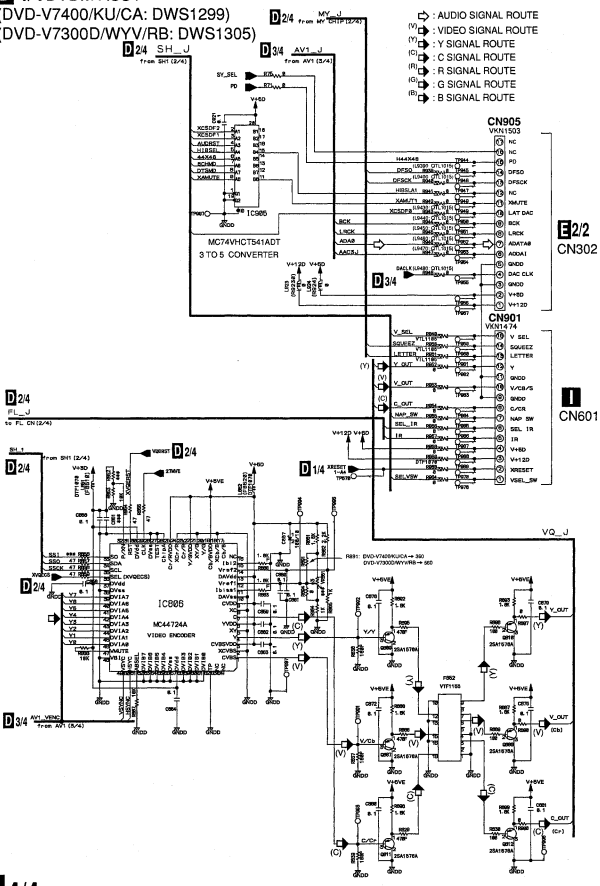
: AUDIO SIGNAL ROUTE
: ROM DATA SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
: Y SIGNAL ROUTE
: C SIGNAL ROUTE
: R SIGNAL ROUTE
: G SIGNAL ROUTE
: B SIGNAL ROUTE





3.6 DVDM ASSY (4/4)

D 4/4 DVDM ASSY
(DVD-V7400/KU/CA: DWS1299)
(DVD-V7300D/WYV/RB: DWS1305)



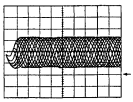
■ WAVEFORMS

Note : The encircled numbers denote measuring point in the schematic diagram.

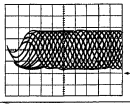
Measurement condition : No. 1 to 4 and 6 to 11 : Disc MA1, Title 1-chp 1
No. 5 : CD, ABEX-784 Track 1
No. 12 to 14 : MJK1, Title 1-chp 4 or T2-1
No. 15 to 17 : MJK1, Title 1-chp 5 or T2-19
No. 18 to 20 : T2-19, Color-bar (WY and WV Types only)

● DVDM ASSY

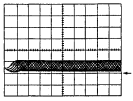
① Foot of R169 (RF)
V: 100mV/div. H: 0.2μsec/div.



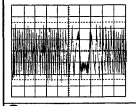
② CN201 - pin 5, 6 (RFO)
V: 500mV/div. H: 0.1μsec/div.



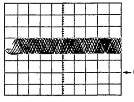
③ IC701 - pin 170 (MY CHIP input)
V: 1V/div. H: 0.2μsec/div.



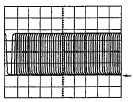
④ CN201 - pin 9, 10 (Tracking Error) (Al-Inner Tracking Off)
V: 500mV/div. H: 2msec/div.



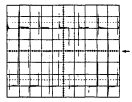
⑤ IC201 - pin 39 (EFM before slice)
V: 1V/div. H: 1μsec/div.



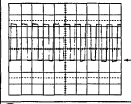
⑥ IC201 - pin 1 (EFM)
V: 1V/div. H: 0.2μsec/div.



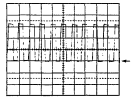
⑦ Q281 - Collector (FG)
V: 1V/div. H: 5msec/div.



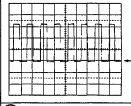
⑧ Foot of R261 (FPWM)
V: 1V/div. H: 5msec/div.



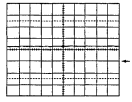
⑨ Foot of R262 (VPWM)
V: 1V/div. H: 5msec/div.



⑩ Foot of R263 (PPWM)
V: 1V/div. H: 5msec/div.



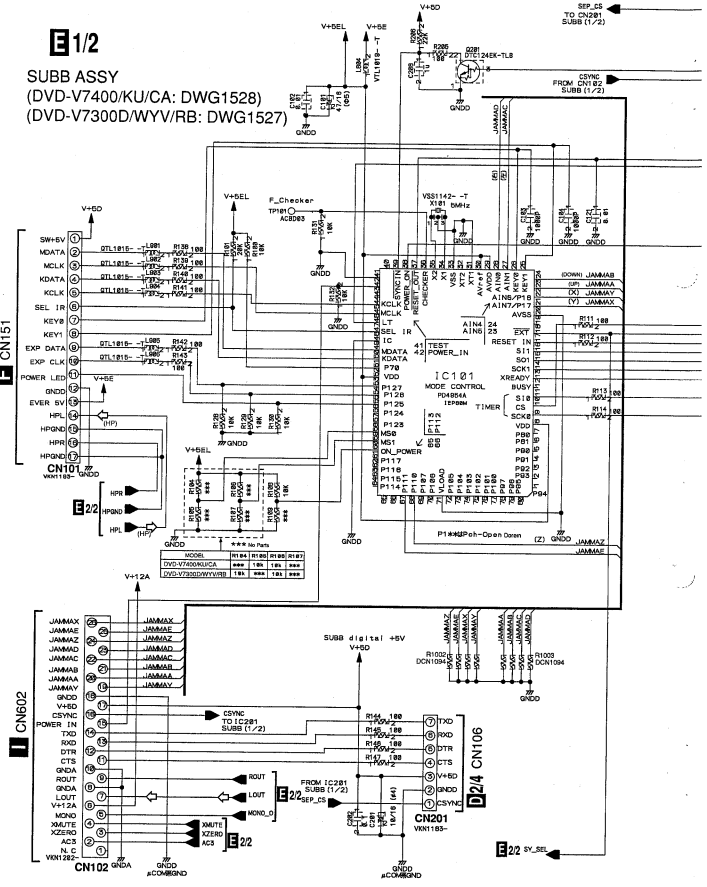
⑪ Foot of R264 (RPWM)
V: 1V/div. H: 5msec/div.

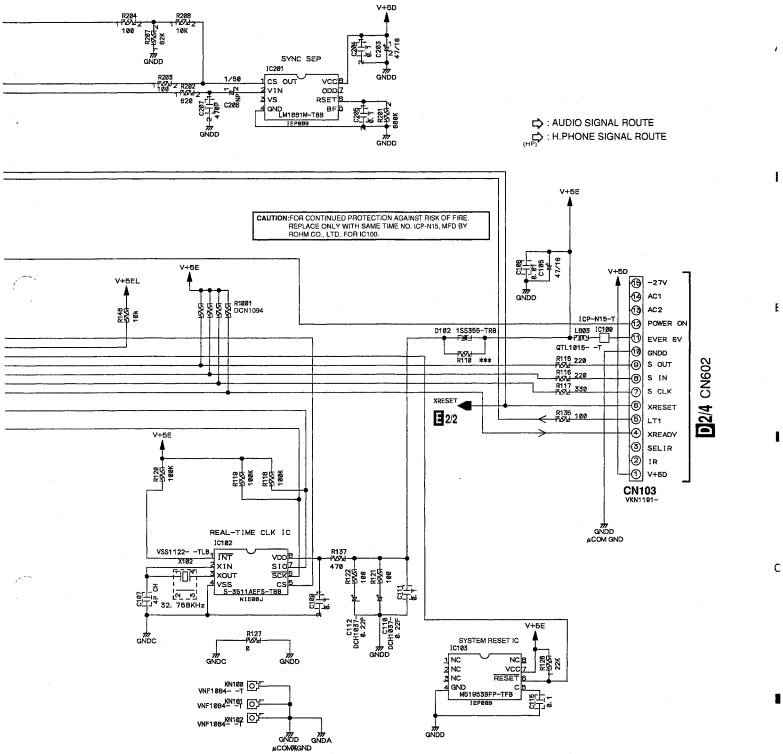


3.7 SUBB ASSY (1/2)

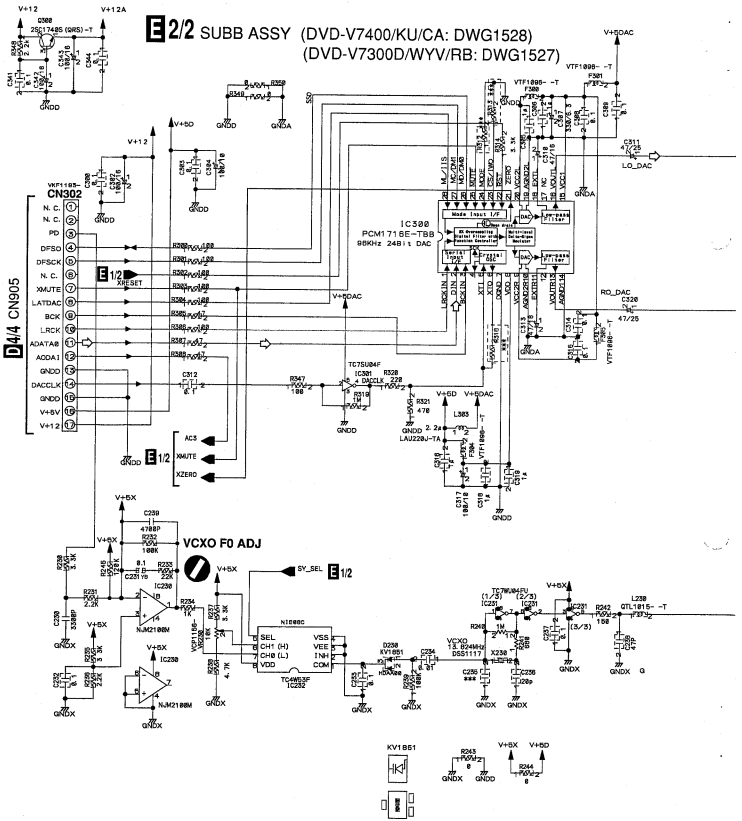
E 1/2

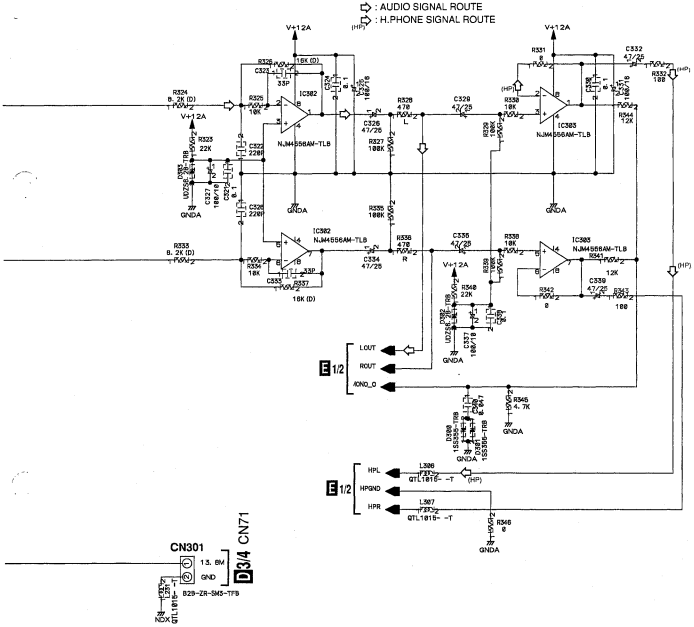
SUBB ASSY
(DVD-V7400/KU/CA: DWG1528)
(DVD-V7300D/WYV/RB: DWG1527)




: AUDIO SIGNAL ROUTE
: H.PHONE SIGNAL ROUTE
CAUTION:FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TIME NO. ICF-N15, MFD BY ROHM CO., LTD. FOR IC100.
SYNC SEP
IC281
M1881M-T88
REAL-TIME CLK IC
IC182
S-3511AEF5-T88
32.768KHz
SYSTEM RESET IC
IC183
MD1953SFF-TFB
ICF-N15-T
CN103
VXN1191-
D/4 CN602
E 2/2
-27V
AC1
AC2
POWER ON
EVER 5V
GNDD
S OUT
S IN
S CLK
XRESET
LT1
XREADY
SELIR
IR
V+5D
GNDD
µCOM GND
µCOM/GNDD
GNDA

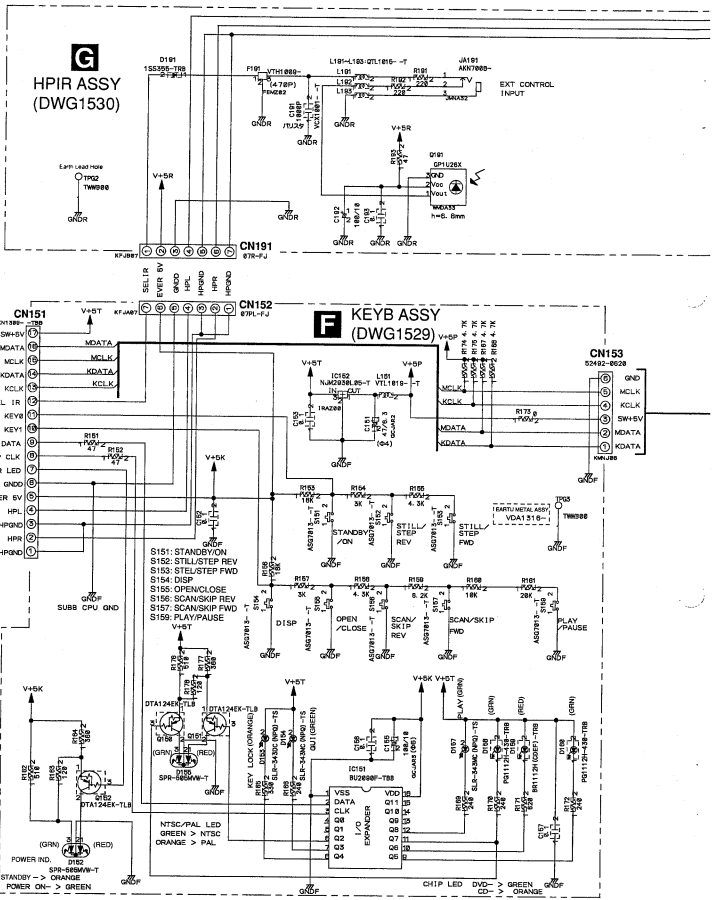
3.8 SUBB ASSY (2/2)

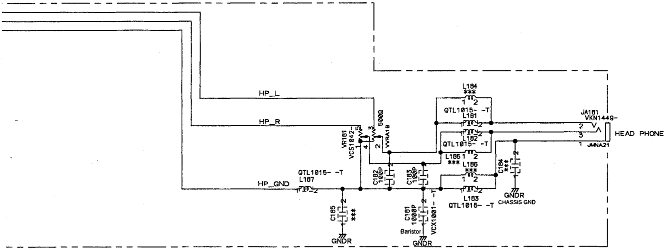


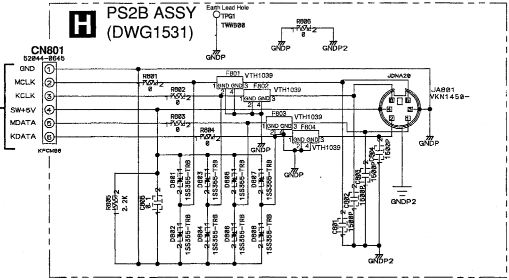


MUTE	H	H	L	L
ZERO	HIZ	L	HIZ	L
AUDIO MUTE	×	○	○	○

3.9 HPIR, KEYB, PS2B ASSYS

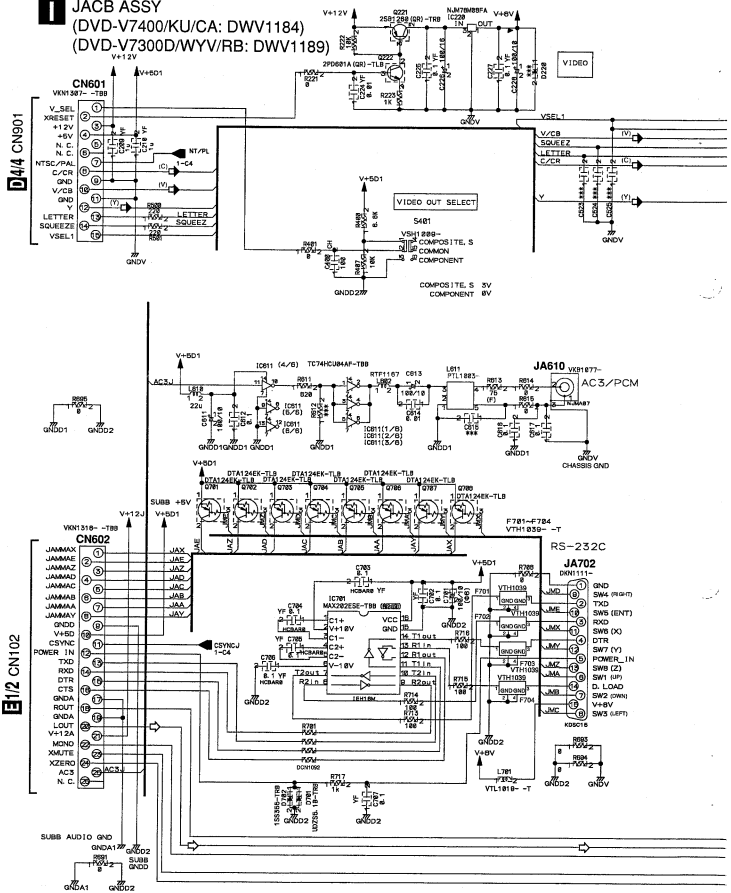


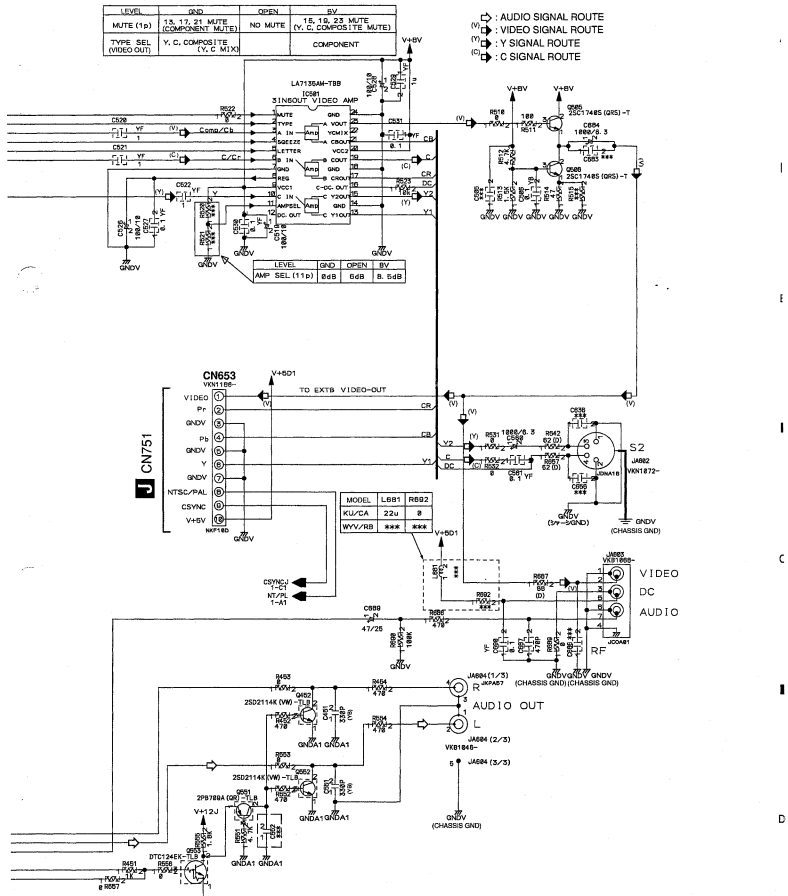

HP_L
HP_R
HP_GND
L184
QTL1015- -T
L181
L182
L185
L186
L183
L187
JA181
VKN1449-
JMNA21
HEAD PHONE
VR181
VCS1042-
500Ω
VVRA18
C182
100P
C183
100P
C181
1000P
Baristor
VCX1001- -T
C184
C185
GNDR
CHASSIS GND


H
PS2B ASSY
(DWG1531)
Earth Lead Hole
TPG1
TWW800
R806
GNDP
GNDP2
CN801
52044-0645
GND
MCLK
KCLK
SW+5V
MDATA
KDATA
KFCM08
R801
R802
R803
R804
F801
F802
F803
F804
VTH1039
GND GND
JDNA20
JA801
VKN1450-
D801
D802
D803
D804
D805
D806
D807
D808
1SS355-TRB
R805
2.2K
C805
0.1
C801
C802
C803
C804
1500P

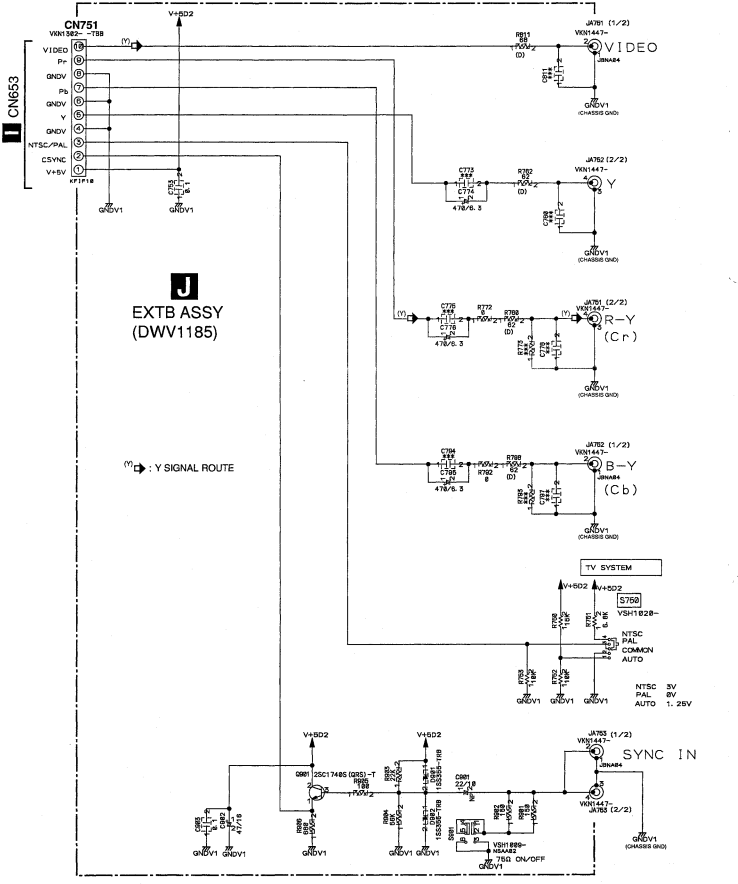
3.10 JACB ASSY

I JACB ASSY
(DVD-V7400/KU/CA: DWV1184)
(DVD-V7300D/WYV/RB: DWV1189)

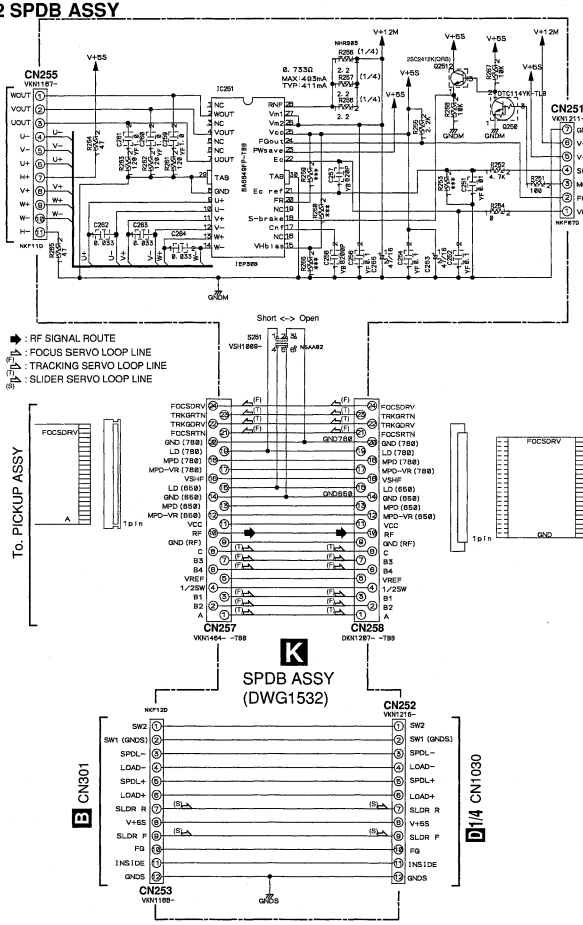



: AUDIO SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
: Y SIGNAL ROUTE
: C SIGNAL ROUTE
LEVEL | GND | OPEN | 8V
MUTE (1p) | 13, 17, 21 MUTE (COMPONENT MUTE) | NO MUTE | 15, 19, 23 MUTE (Y, C, COMPOSITE MUTE)
TYPE SEL (VIDEO OUT) | Y, C, COMPOSITE (Y, C MIX) | | COMPONENT
LA7135AM-TBB
3 1INSOUT VIDEO AMP
MUTE
TYPE
A. IN
SQEEZE
LETTER
B. IN
GND
REG
VCC1
C. IN
AMPSEL
AC. OUT
A. VOUT
YCM1X
A. COUT
VCC2
COUT
B. COUT
CC. OUT
C. Y2OUT
GND
C. Y1OUT
CB
C
CR
DC
Y2
Y1
Coma/Cb
C/Cr
LEVEL | GND | OPEN | 8V
AMP SEL (11p) | 0dB | 6dB | 8.5dB
CN653
VKN1196-
VIDEO
Pr
GNDV
Pb
GNDV
Y
GNDV
NTSC/PAL
CSYNC
+8V
NKF16D
CN751
TO EXTB VIDEO-OUT
MODEL | LB81 | RB82
KU/CA | 22u | 0
WYV/RB | *** | ***
S2
JA802
VKN1872-
JA805
VKB1868-
VIDEO
DC
AUDIO
RF
JC00A81
JA804 (1/3)
JKPA57
R
AUDIO OUT
L
JA804 (2/3)
VKB1845-
JA804 (3/3)
2SD2114K (VW)-TL2
2SB709A (QR)-TL2
DTC124EK-TL2
(CHASSIS GND)
GNDV
GNDA1
V+8V
V+8D1
V+12J

3.11 EXTB ASSY



3.12 SPDB ASSY

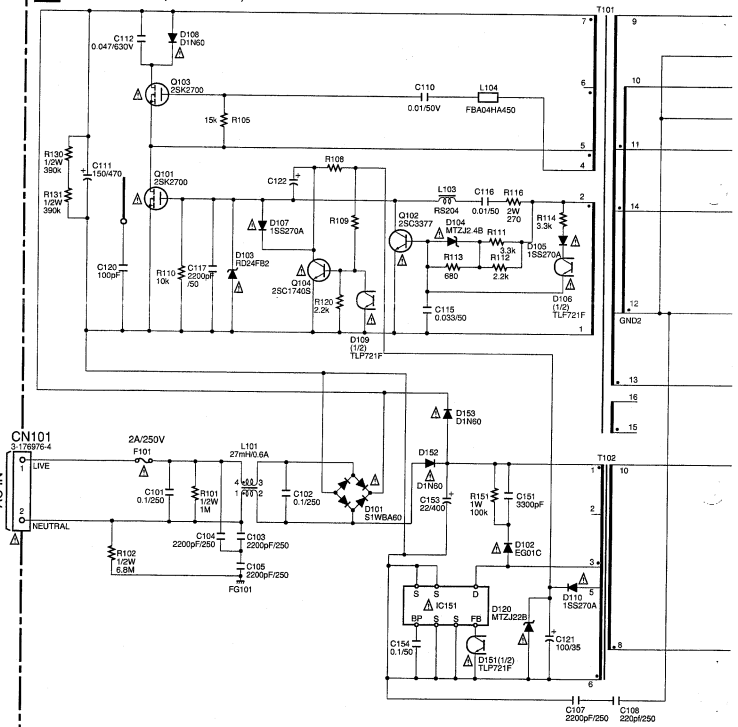


3.13 SYPS ASS

《NOTE OF SPARE PARTS IN POWER SUPPLY (SYPS) ASSY》

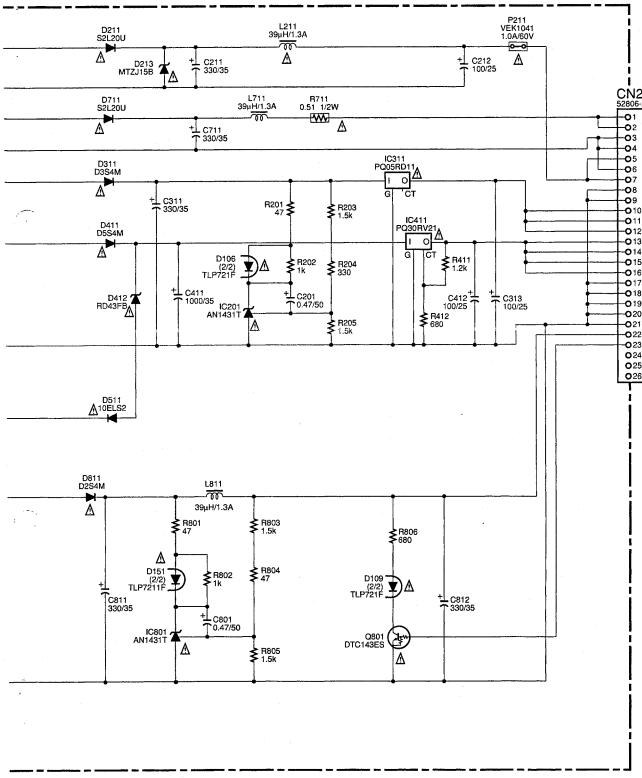
- In case of repairing, use the described parts only to prevent an accident.
- Please write the red √ mark on the board when the primary section of POWER SUPPLY (SYPS) Assy is repaired.
- Please take care to keep the space, not touching other parts when replacing the parts.

L SYPS ASSY (DWR1338)



• NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.



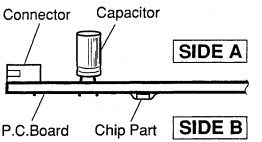
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

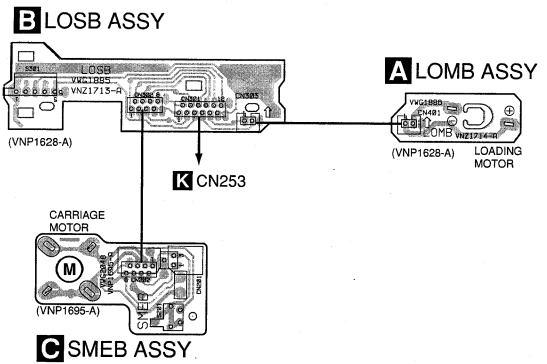
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



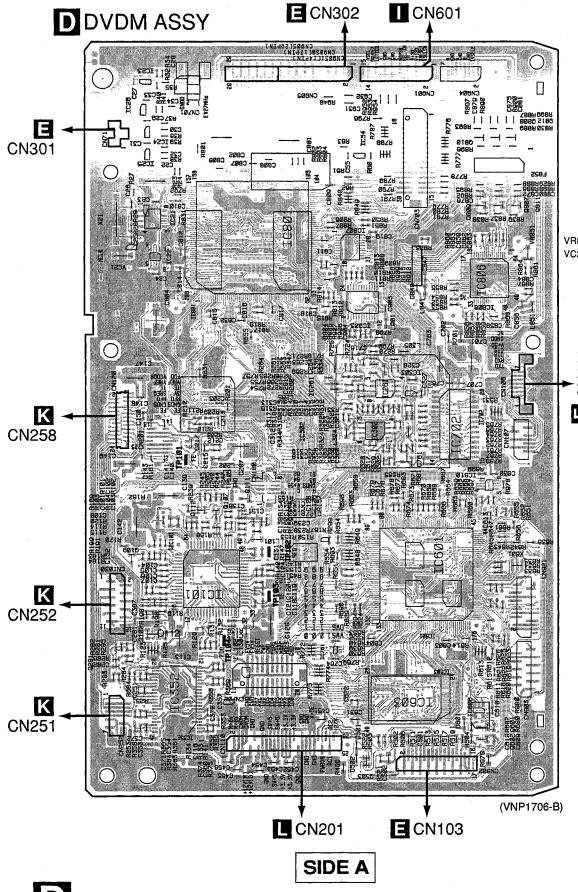
4.1 LOMB, LOSB and SMEB ASSYS



SIDE A

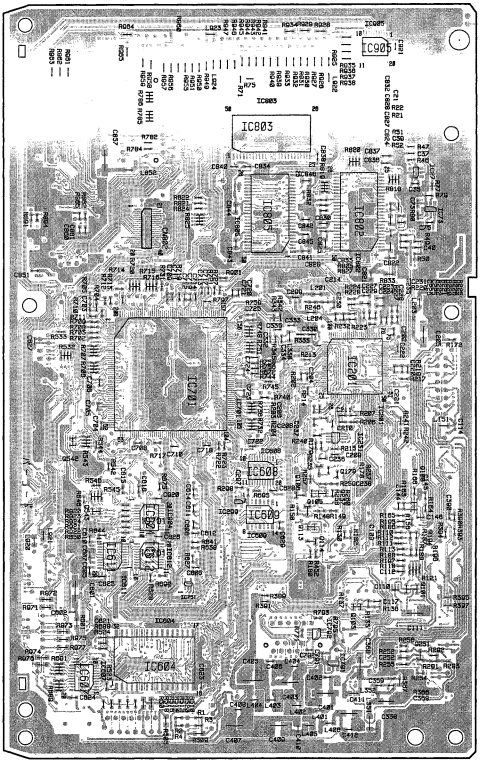
4.2 DVDM ASSY

• This PCB is a four-layered board.



• This PCB is a four-layered board.

D DVDM ASSY

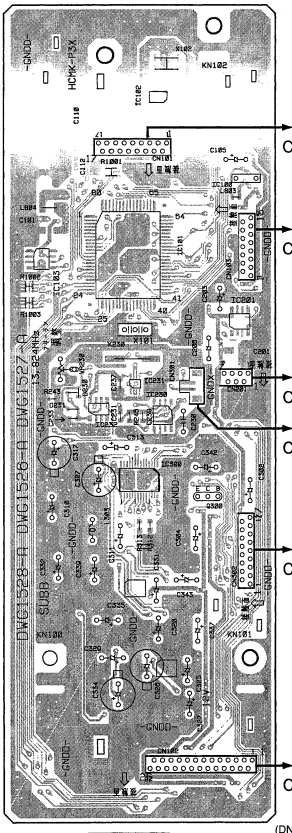


(VNP1706-B)

SIDE B

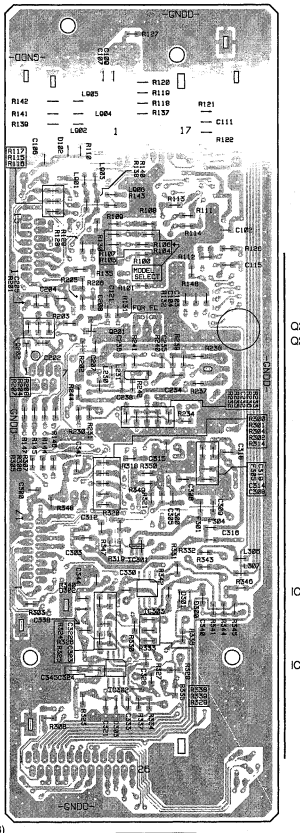
4.3 SUBB ASSY

E SUBB ASSY



SIDE A

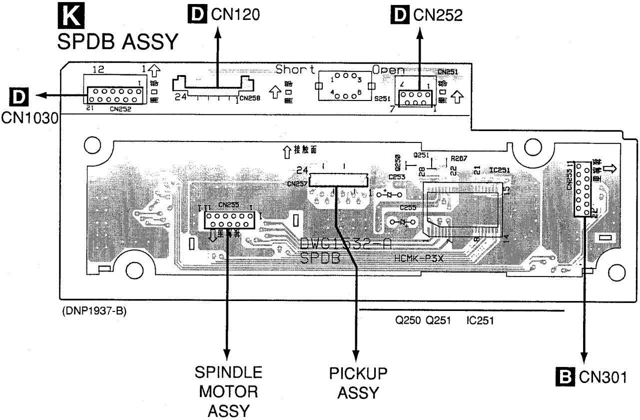
E SUBB ASSY



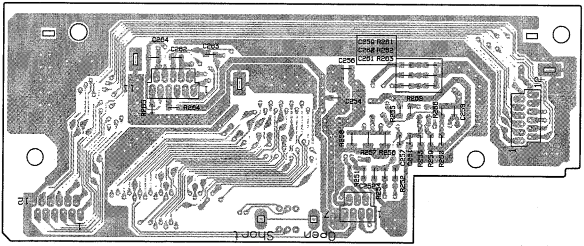
SIDE B

(DNP1937-B)

4.4 SPDB ASSY

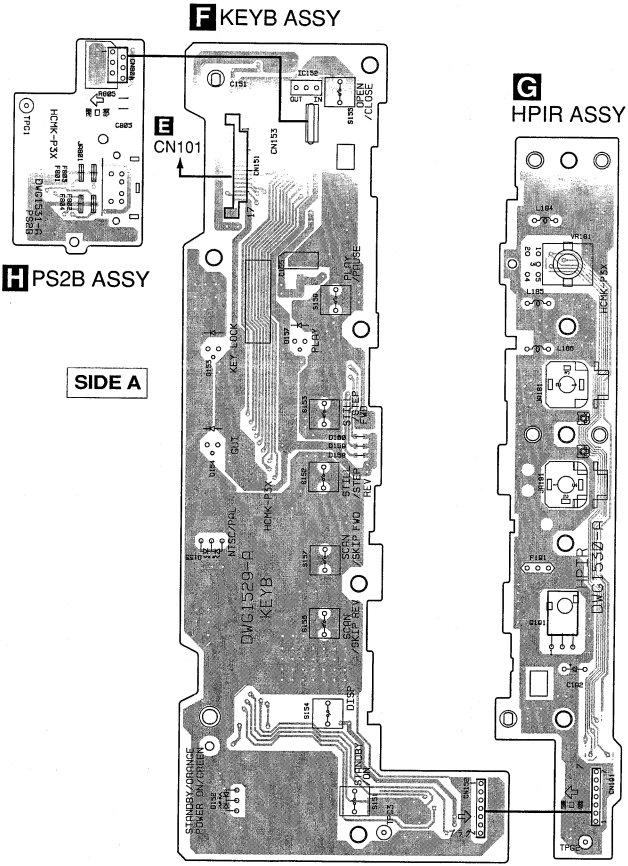


K SPDB ASSY



SIDE A

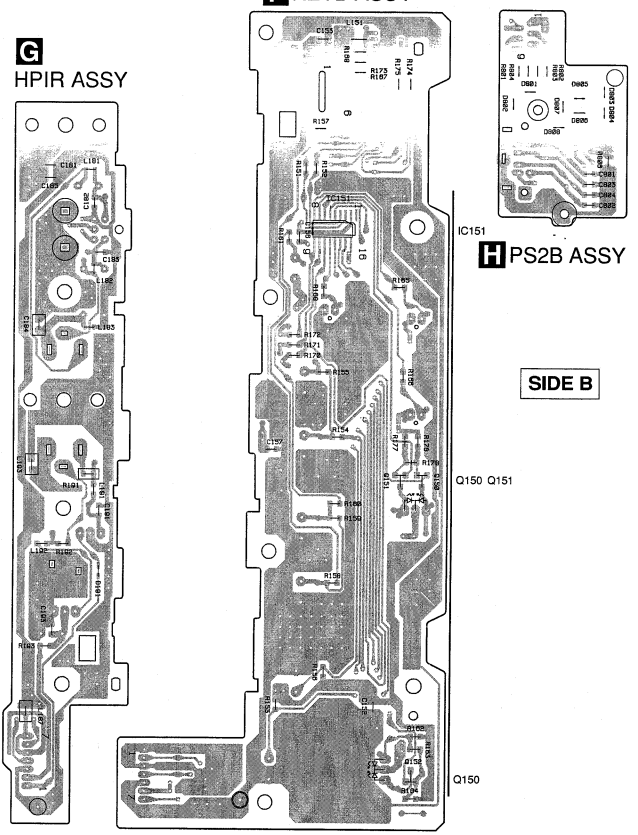
4.5 KEYB, HPIR and PS2B ASSYS



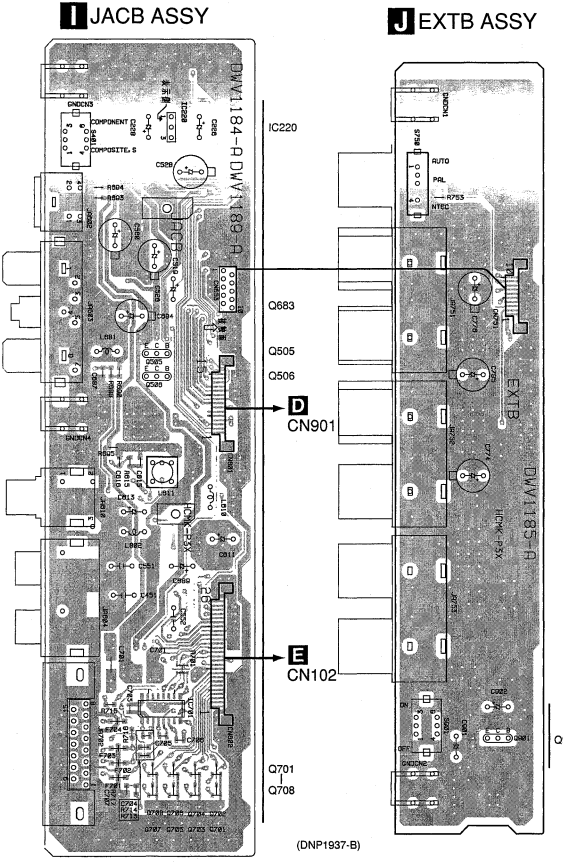
F KEYB ASSY

G HPIR ASSY

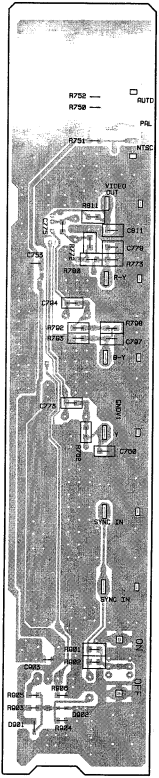
H PS2B ASSY



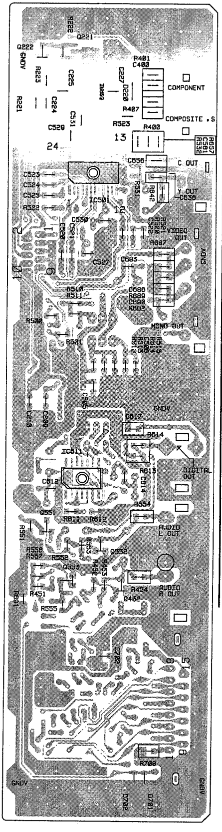
4.6 JACB and EXTB ASSYS



J EXTB ASSY



I JACB ASSY

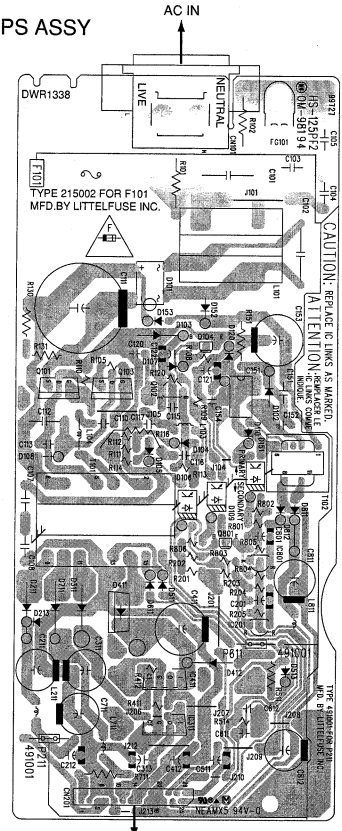


(DNP1937-B)

SIDE B

4.7 SYPS ASSY

L SYPS ASSY



5. PCB PARTS LIST

NOTES: ●*Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
●*The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
●*When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→	*56 × 10¹*	→ *561*	*RD1/4PU 5 6 1 J*
47k Ω	→	*47 × 10³*	→ *473*	*RD1/4PU 4 7 3 J*
0.5 Ω	→	*R50*		*RN2H R 5 0 K*
1 Ω	→	*1R0*		*RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→	*562 × 10¹*	→ *5621*	*RN1/4PC 5 6 2 1 F*

5.1 LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No. DVD-V7400 /KU/CA	Part No. DVD-V7300D /WYV/RB	Remarks
NSP	LOAB ASSY	VWM1798	VWM1798	
NSP	┣LOMB ASSY	VWG1886	VWG1886	
NSP	┗LOSB ASSY	VWG1885	VWG1885	
NSP	TRAVERSE MECHANISM ASSY	VWT1170	VWT1170	
NSP	┗SMEB ASSY	VWG2048	VWG2048	
	DVDM ASSY	DWS1299	DWS1305	
NSP	FCJB ASSY	DWM2107	DWM2111	
	┣SUBB ASSY	DWG1528	DWG1527	
	┣KEYB ASSY	DWG1529	DWG1529	
	┣HPIR ASSY	DWG1530	DWG1530	
	┣PS2B ASSY	DWG1531	DWG1531	
	┣JACB ASSY	DWV1184	DWV1189	
	┣EXTB ASSY	DWV1185	DWV1185	
	┗SPDB ASSY	DWG1532	DWG1532	
⚠	SYPS ASSY	DWR1338	DWR1338	

■CONTRAST OF PCB ASSEMBLIES

D DVDM ASSY

DWS1299 and DWS1305 are constructed the same except for the following:

Mark	Symbol and Description	Part No. DWG1299	Part No. DWS1305	Remarks
	R891	RS1/16S5600F	RS1/16S3600F	

E SUBB ASSY

DWG1528 and DWG1527 are constructed the same except for the following:

Mark	Symbol and Description	Part No. DWG1528	Part No. DWG1527	Remarks
	R104 R105	Not used RS1/10S103J	RS1/10S103J Not used	

I JACB ASSY

DWV1184 and DWV1189 are constructed the same except for the following:

Mark	Symbol and Description	Part No. DWV1184	Part No. DWV1189	Remarks
	L681 R692	LFA220J RS1/10S0R0J	Not used Not used	

■ PCB PARTS LIST FOR DVD-V7400/KU/CA UNLESS OTHERWISE NOTED

Mark	No.	Description	Part No.
A		**LOMB ASSY**	
		OTHERS	
	CN401	KR CONNECTOR	B2B-PH-K-S
B		**LOSB ASSY**	
		SWITCH	
	S301		VSK1011
		OTHERS	
	CN303	KR CONNECTOR	B2B-PH-K-S
	CN302	8P FFC CONNECTOR	VKN1268
	CN301	12P FFC CONNECTOR	VKN1272
C		**SMEB ASSY**	
		SWITCH	
	S201		DSG1016
		OTHERS	
	CN201	3P FFC CONNECTOR	52044-0345
	CN202	8P FFC CONNECTOR	VKN1212
D		**DVDM ASSY**	
		SEMICONDUCTORS	
	IC21		CY2081SL-655
	IC603		DYW1662
	IC101		LA9701M
	IC201		LC78652W
	IC352		M56788FP
	IC803		M5M4V18165DTP-6S
	IC801		M65773AFP
	IC802		MB81171622A-100FN
	IC806		MC44724A
	IC612		MC74VHC541DT
	IC611, IC807, IC905		MC74VHCT541ADT
	IC702		MN414800CSJ-07
	IC261, IC302		NJM2100M
	IC601		PD3410A
	IC701		PD4995A
	IC604		TC55V2001F-85L
	IC751		TC7SH32FU
	IC24–IC27, IC303, IC73		TC7SHU04F
	IC610		TC7W53FU
	IC22		TC7WH74FU
	Q106, Q109, Q807–Q812		2SA1576A
	Q105, Q114		2SC4081
	Q602		DTA114EUA
	Q107, Q111, Q601		DTC114EUA
	Q103, Q281, Q542, Q543		HN1B04FU
	Q108		HN1K03FU
	Q101		IMX1
	Q102		HN1A01F
	Q503		RN1911
	Q112, Q113		UMX1N
	D302		KV1470
	D601		RB501V-40
	D501, D502		RB521S-30
		COILS AND FILTERS	
	F5050, F5090		DTF1067
	F4010, F4020, F4030, F4040, F4050		DTF1070
	F4060, F8330, F8510, F8520, F9590		DTF1070
	L9390, L9400, L9430, L9440, L9450		QTL1015
	L9460, L9470, L9480		QTL1015
	F852		VTF1155
	L304		VTL1059
	L151		VTL1061
	L1400		VTL1088
	L9490, L9500, L9510		VTL1105
	L101, L330		VTL1125
		CAPACITORS	
	C612		CCSRCH100D50
	C123, C145, C21, C282, C617		CCSRCH101J50
	C126, C333		CCSRCH150J50
	C206, C210, C211		CCSRCH151J50
	C322		CCSRCH180J50
	C116, C151, C314		CCSRCH220J50
	C152		CCSRCH221J50
	C632		CCSRCH330J50
	C209		CCSRCH331J50
	C104–C108, C128, C134, C297		CCSRCH470J50
	C335		CCSRCH470J50
	C122, C208		CCSRCH471J50
	C73		CCSRCH560J50
	C127, C334		CCSRCH5R0C50
	C124, C146		CCSRCH680J50
	C117, C240, C352, C360		CCSRCH681J25
	C129, C142, C22, C405, C601		CEV101M10
	C701, C763, C801, C802, C804		CEV101M10
	C857		CEV101M10
	C113, C139, C358, C368, C411		CEV220M16
	C111, C147, C149, C205, C207		CEV470M6R3
	C401, C403, C407		CEV470M6R3
	C502		CKSQYB103K50
	C140, C223, C224, C264, C312		CKSQYB105K10
	C229		CKSQYB224K16
	C217		CKSQYF105Z16
	C216, C313		CKSRYB102K50
	C133, C136, C203, C220, C225		CKSRYB103K50
	C239, C320, C321, C619, C703		CKSRYB103K50
	C722		CKSRYB103K50
	C101, C102, C114, C118, C119		CKSRYB104K16
	C121, C130, C138, C204		CKSRYB104K16
	C212, C213, C227, C228, C231		CKSRYB104K16
	C24, C263, C315–C317, C332		CKSRYB104K16
	C75		CKSRYB104K16
	C354		CKSRYB222K50
	C153, C266		CKSRYB223K25
	C214, C261		CKSRYB472K50
	C357		CKSRYB473K16
	C330		CKSRYB682K50

Mark	No.	Description	Part No.
	C109, C110, C120, C131, C148		CKSRYF104Z16
	C150, C202, C215, C221, C222		CKSRYF104Z16
	C226, C230, C235, C265, C29		CKSRYF104Z16
	C31, C33, C35, C359, C367		CKSRYF104Z16
	C369–C372, C402, C404, C406		CKSRYF104Z16
	C408, C410, C412, C501		CKSRYF104Z16
	C602–C611, C613–C616		CKSRYF104Z16
	C621–C623, C625–C627		CKSRYF104Z16
	C630, C631, C702, C704–C714		CKSRYF104Z16
	C716–C721, C723–C725		CKSRYF104Z16
	C761, C762, C822, C827, C829		CKSRYF104Z16
	C832–C834, C836, C838, C840		CKSRYF104Z16
	C856, C858–C864, C872		CKSRYF104Z16
	C875, C876, C879–C881, C921		CKSRYF104Z16
	C143, C319, C806–C819		CKSRYF105Z10
	C328, C821, C824, C825, C828 (2.2µF)		VCG1030
	C830, C837 (2.2µF)		VCG1030
	C23, C299 (0.47µF)		VCG1032

RESISTORS

R123	(39Ωx4)	ACN7047
R715, R716	(47Ωx4)	ACN7077
R531, R543, R545, R613 (10kΩx4)		DCN1094
R648, R649, R706, R707, R748 (10kΩx4)		DCN1094
R751 (10kΩx4)		DCN1094
R121, R532, R732, R736 (22Ωx4)		DCN1104
R785, R786, R818–R820, R825 (22Ωx4)		DCN1104
R848, R849 (22Ωx4)		DCN1104
R1020, R162, R2010, R2020, R2030		RS1/10S0R0J
R2040, R3050, R3520, R506, R510		RS1/10S0R0J
R520, R601, R701, R801, R9220		RS1/10S0R0J
R9230, R9240, R941, R942		RS1/10S0R0J
R952–R958, R960, R964		RS1/10S0R0J
R864		RS1/16S1001F
R361, R364		RS1/16S1203F
R861		RS1/16S1501F
R363, R365		RS1/16S1503F
R837–R839		RS1/16S1800F
R860, R863		RS1/16S1801F
R829, R888, R895		RS1/16S4700F
R164, R891		RS1/16S5600F
R3510 (100Ω)		VCN1120
Other Resistors		RS1/16S□□□ J

OTHERS

CN71	CONNECTOR	B2B-ZR-SM3
X601	(20MHz)	DSS1110
CN106	7P CONNECTOR	VKN1299
CN201	14P CONNECTOR	VKN1324
CN120	24P CONNECTOR	VKN1464
CN1030	12P CONNECTOR	VKN1471
CN602, CN901	15P CONNECTOR	VKN1474
CN110	26P CONNECTOR	VKN1479
CN905	17P CONNECTOR	VKN1503
CN252	7P CONNECTOR	VKN1575
	LABEL	VRW1773

Mark	No.	Description	Part No.

E SUBB ASSY

SEMICONDUCTORS

⚠	IC100	(0.6A/50V)	ICP-N15
	IC201		LM1881M
	IC103		M51953BFP
	IC230		NJM2100M
	IC302, IC303		NJM4556AM
	IC300		PCM1716E
	IC101		PD4954A
	IC102		S-3511AEFS
	IC232		TC4W53F
	IC301		TC7SU04F
	IC231		TC7WU04FU
	Q300		2SC1740S
	Q201		DTC124EK
	D102, D300, D301		1SS355
	D230		KV1851
	D302, D303		UDZS6.2B

COILS AND FILTERS

L303	LAU220J-TA
L230, L231, L306, L307, L803	QTL1015
L901–L906	QTL1015
F300, F301, F304, F305	VTF1096
L804	VTL1019

CAPACITORS

C236	CCSQCH200J50
C322, C328	CCSQCH221J50
C323, C333	CCSQCH330J50
C238	CCSQCH470J50
C207	CCSQCH471J50
C107	CCSQCH4R0C50
C304, C317, C327, C337	CEJA101M10
C302, C325, C331, C342, C343	CEJA101M16
C307	CEJA331M6R3
C105, C203, C310, C313	CEJA470M16
C311, C320, C326, C329, C332	CEJA470M25
C334, C335, C339	CEJA470M25
C206	CEJANP1R0M50
C201	CEV100M16
C101	CEV470M16
C239	CKSQYB472K50
C103, C104	CKSQYB102K50
C102, C106, C121, C234	CKSQYF103Z50
C109, C111, C115, C202	CKSQYF104Z25
C204, C205, C232, C233, C237	CKSQYF104Z25
C300, C303, C308, C309, C312	CKSQYF104Z25
C314, C315, C321, C324, C330	CKSQYF104Z25
C338, C341, C344, C231	CKSQYF104Z25
C208, C305, C306, C316	CKSQYF105Z16
C318, C319	CKSQYF105Z16
C340	CKSQYF473Z50
C230	CQMBA332J50
C110, C112 (0.22F/25V)	DCH1037

RESISTORS

R1001–R1003 (10kΩ)	DCN1094
R326, R337	RN1/10SE1602D
R324, R333	RN1/10SE8201D
VR230 (10kΩ)	VCP1156
Other Resistors	RS1/10S□□□ J

Mark	No.	Description	Part No.
OTHERS			
	CN301	2P CONNECTOR	B2B-ZR-SM3
		PCB BINDER	DEF1012
	X230	(13.824MHz)	DSS1117
		PCB BINDER	VEF1040
	CN201	7P CONNECTOR	VKN1183
	CN103	15P FFC CONNECTOR	VKN1191
	CN101, CN302	17P CONNECTOR	VKN1193
	CN102	26P FFC CONNECTOR	VKN1202
	KN100–KN102		VNF1084
		EARTH METAL FITTING	
	X102	(32.768KHz)	VSS1122
	X101	(5MHz)	VSS1142

F KEYB ASSY

SEMICONDUCTORS		
	IC151	BU2090F
	IC152	NJM2930L05
	Q150–Q152	DTA124EK
	D159	BR1112H
	D158, D160	PG1112H-430
	D153	SLR-343DC
	D154, D157	SLR-343MC
	D152, D155	SPR-505MVW
COILS AND FILTERS		
	L151	VTL1019
SWITCHES AND RELAYS		
	S151–S157, S159	ASG7013
CAPACITORS		
	C155	CEV101M10
	C151	CEV470M6R3
	C152, C153, C156, C157	CKSQYF104Z25
RESISTORS		
	Other Resistors	RS1/10S□□□ J
OTHERS		
	CN152 7P CONNECTOR	07PL-FJ
	CN153 6P CONNECTOR	52492-0620
	CN151 17P FFC CONNECTOR	VKN1309

G HPIR ASSY

SEMICONDUCTORS		
	D191	1SS355
COILS AND FILTERS		
	L181–L183, L187, L191–L193	QTL1015
	F191	VTH1009
CAPACITORS		
	C182, C183	CCSQCH101J50
	C192	CEJA101M10
	C193	CKSQYF104Z25
	C181, C191 (1000PF/18V)	VCX1001

Mark	No.	Description	Part No.
RESISTORS			
	VR181	(0.5kΩ-B)	VCS1042
	Other Resistors		RS1/10S□□□ J
OTHERS			
	CN191	7P CONNECTOR	07R-FJ
	JA191	JACK	AKN7008
	191	REMOTE RECEIVER UNIT	GP1U26X
	JA181	JACK	VKN1449

H PS2B ASSY

SEMICONDUCTORS		
	D801–D80	1SS355
COILS AND FILTERS		
	F801–F804	VTH1039
CAPACITORS		
	C801–C804	CKSQYB152K50
	C805	CKSQYF104Z25
RESISTORS		
	Other Resistors	RS1/10S□□□ J
OTHERS		
	CN801 6P CONNECTOR	52044-0645
	PCB HOLDER	DNE1391
	JA801 SOCKET	VKN1450

I JACB ASSY

SEMICONDUCTORS		
	IC501	LA7135AM
	IC701	MAX202ESE
⚠	IC220	NJM78M08FA
	IC611	TC74HCU04AF
	Q551	2PB709A
	Q222	2PD601A
	Q221	2SB1260
	Q505, Q506	2SC1740S
	Q452, Q552	2SD2114K
	Q701–Q708	DTA124EK
	Q553	DTC124EK
	D702	1SS355
	D701	UDZS5.1B
COILS AND FILTERS		
	L610, L681	LFA220J
	L611	PTL1003
	L802	RTF1167
	F701–F704	VTH1039
	L701	VTL1019
SWITCHES AND RELAYS		
	S401	VSH1009
CAPACITORS		
	C400	CCSQCH101J50
	C687	CCSQCH471J50
	C228, C519, C528, C611, C613	CEAT101M10
	C226	CEAT101M16
	C560, C684	CEAT102M6R3

Mark	No.	Description	Part No.
	C689		CEAT470M25
	C526		CEJA101M10
	C701		CEV101M10
	C451, C551		CKCYB331K50
	C506, C520–C522, C561		CKSQYB104K25
	C224, C614		CKSQYF103Z50
	C225, C227, C527, C530, C531		CKSQYF104Z25
	C612, C616, C617, C690		CKSQYF104Z25
	C702–C707		CKSQYF104Z25
	C209, C210, C529		CKSQYF105Z16
RESISTORS			
	R701 (100Ω)		DCN1092
	R642, R657		RN1/10SC62R0D
	R687		RN1/10SC68R0D
	Other Resistors		RS1/10S□□□ J
OTHERS			
	JA702	D-SUB SOCKET 15P	DKN1111
	JA604	JACK	VKB1046
	JA603	JACK	VKB1068
	JA610	JACK	VKB1077
	JA602	SOCKET	VKN1072
	CN653	10P CONNECTOR	VKN1186
	CN601	15P CONNECTOR	VKN1307
	CN602	26P CONNECTOR	VKN1318
		SCREW PLATE	VNE1948

J EXTB ASSY

SEMICONDUCTORS

	Q901	2SC1740S
	D901, D902	1SS355

SWITCHES AND RELAYS

	S901	VSH1009
	S750	VSH1020

CAPACITORS

	C902	CEAT470M16
	C774, C776, C795	CEAT471M6R3
	C901	CEJANP220M10
	C753, C903	CKSQYF104Z25

RESISTORS

	R762, R780, R798	RN1/10SC62R0D
	R811	RN1/10SC68R0D
	Other Resistors	RS1/10S□□□ J

OTHERS

	CN751	10P CONNECTOR	VKN1302
	JA751–JA753	BNC JACK	VKN1447
		SCREW	VNE1948

Mark	No.	Description	Part No.

K SPDB ASSY

SEMICONDUCTORS

	IC251	BA6849FP
	Q251	2SC2412K
	Q250	DTC114YK

SWITCHES AND RELAYS

	S251	VSH1009

CAPACITORS

	C253, C255	CEAT470M16
	C262–C264	CKSQYB333K50
	C257	CKSQYB821K50
	C258	CKSQYB822K50
	C251	CKSQYF103Z50
	C252, C254, C256	CKSQYF104Z25
	C259–C261	CKSQYF105Z16

RESISTORS

	R256–R258	RS1/4S2R2J
	Other Resistors	RS1/10S□□□ J

OTHERS

		PCB BINDER	DEF1012
	CN255	11P CONNECTOR	VKN1187
	CN253	12P CONNECTOR	VKN1188
	CN251	7P CONNECTOR	VKN1211
	CN252	2P CONNECTOR	VKN1216
	CN257	24P CONNECTOR	VKN1464

6. ADJUSTMENT

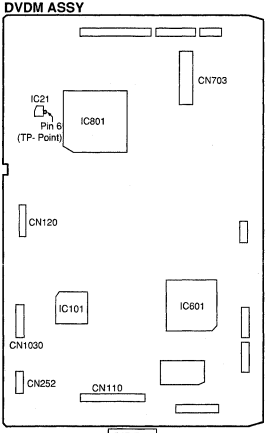
6.1 ADJUSTMENT ITEMS AND LOCATION

Note : When the Traverse mechanism adjustment is prnot operly adjusted, jitter, error rate and play ability are defective. The noise may come out by the case.

■ **Adjustment Points (PCB Part)**

● **TP-Point**

DVDM ASSY



● **Adjustment Point**

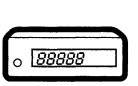
SUBB ASSY

■ **Adjustment Items**

[Electrical Part]

① 13.824MHz VCXO F0 Adjustment

6.2 JIGS AND MEASURING INSTRUMENTS

 Frequency counter Display digit ≥ 8-digit	 ⊖ Screwdriver (small)

6.3 NECESSARY ADJUSTMENT POINTS

When → Adjustment Points

■ **EXCHANGE PCB ASSY**

Exchange board
SUBB ASSY

→ Mechanical point ＿＿＿＿＿＿
→ Electric point ＿＿＿＿＿＿

Exchange board
DVDM ASSY

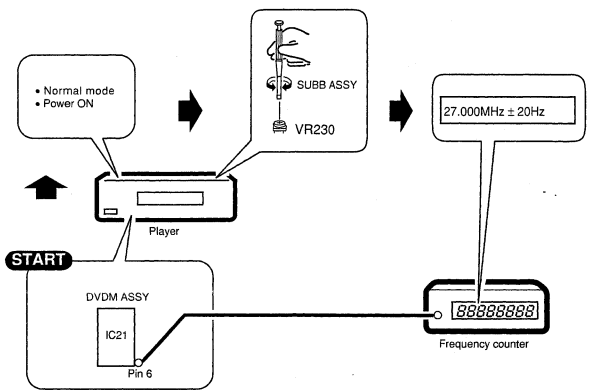
→ Mechanical point ＿＿＿＿＿＿
→ Electric point ＿＿＿＿＿＿

Note : ① is adjusted already.

6.4 ELECTRICAL ADJUSTMENT

① 13.824MHz VCXO F0 Adjustment

• When not properly adjusted : Uneven color



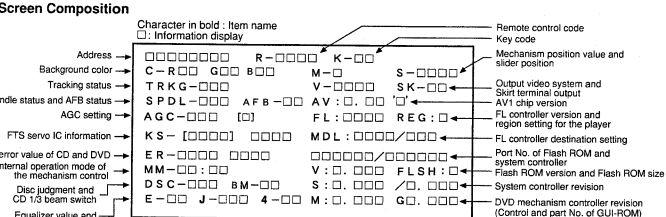
7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE SCREEN DISPLAY

Consecutive double-OSD display is supported during test mode. The screen is composed 10 lines with a maximum of 32 characters per line. It can't be used with the debugging display mode together.

• Screen Composition



First Screen Display

Caution :

- The first screen and second screen switch by pressing [DISPLAY] key of the remote control unit.
- It is only a version display part on the lower right of the screen those contents of display change.
- MDL: V730[□□] (All modells of DVD-V730,DVD-V7400 and DVD-V7300D are displayed like the left.)
- The displays of Tilt error value, Tilt servo status and pickup DVD/CLD display deleted .

• Description of Each Item on the Display

(1) Address indication

The address being traced is displayed in number.

DVD : ID indication (hexadecimal number, 8 digits) [* * * * * * * *]

CD : A-TIME (min. sec.) [0 0 0 0 * * * *]

(Note : For DVDs, decimal-number indication is possible.)

(2) Code indication of the remote control unit [R – * * * *]

The code for the key pressed on the remote control unit, which is received by the FL controller, is displayed while the key is pressed. In the case of the double code, the second code will be displayed.

(3) Key code indication for the main unit [K – * *]

The code for the key pressed on the main unit, which is received by the system controller, is displayed while the key is pressed.

(4) Background color indication [C – R* * G* * B* *]

(5) Tracking status [TRKG – *]**

Tracking on	[ON]
Tracking off	[OFF]

(6) ① Spindle status [SPDL – * * *]

Spindle accelerator and brake, free-runnirng	[A/B]
FG servo	[FG]
Rough, velocity phase servo	[SRV]
Offset addition, rough, velocity phase servo	[O_S]

② AFB status [AFB – * *]

ON	[ON]
OFF	[OFF]

(7) Mechanism position value [M – *]

Position code	[1] to [3]

(8) Slider position [S – * * * *]

CD TOC area	[IN]
CD active area	[CD]

(9) AGC setting [AGC – * *]

AGC on	[AGC-ON]
AGC off	[AGC-OFF]

(10) Output video system [V – * * * *]

NTSC system	[NTSC]
PAL system	[PAL]
Auto-setting	[AUTO]

Skirt terminal output [SK – * *]

VIDEO	[00]
S-VIDEO	[01]
RGB	[02]

* : Display only the model which can do the output setting of skirt terminal.

(11) FTS servo IC information

DSP coefficient indication [KS – [* * * *] * * * *]
Displays the address (four digits) of the specified coefficient and the setting value (four digits) with [TEST] and [9] keys.

(12) Error rate indication

① C1 error value of CD [ER – C1 * * * *]
② C1 error value of DVD [ER – * * * * * * * *]

(13) Internal operation mode of mechanism controller [MM – * * : * *]

Internal mechanism mode (2 digits) and internal mechanism step (2 digits) of the mechanism controller

(14) ① Disk sensing [DSC – * * *]

The type of discs loaded is displayed.
[DVD], [CD], [VCD], [ ]

② CD 1/3 beam switch [BM – * *]

(15) ① Equalizer value [E – * *]

② Jitter value [J – * *]

nake the jitter four times, and renew it in every one second.
[4 – * *]
CD is effective only in the jitter value.

(16) Version of the AV-1 chip [AV : * . * *' *']

(17) ① Version of the FL controller [FL : * * * *]

② Region setting of the player [REG : *]

Setting value [1] to [6]

(18) Destination setting of the FL controller [MDL : * * * * / * * *]

For charactors in front represent the type of model :
There charactors that follow represent the destination code.
J : /J, K : /KU, /KC, /KU/KC, R : /RAM, /RL, /RD, /LB, WY : /WY

(19) The part number of the flash ROM and system controller [* * * * * * / * * * * * * *]

① Part number of the flash ROM <Front>
(Example) VYW1536-A → W1536A
(Example) PD6256A9 → 6256A9
② Part number of the system controller <Rear>
(Example) PD3381T1 → 3381T1

(20) ① Version of the flash ROM [V : * . * * *]
② Flash ROM size [FLSH = *]

(21) Revision of the system controller [S : * . * * * / * . * *]

① Revision number of the external ROM part (flash ROM) of the system controller <Front>
② Revision of the internal ROM part of the system controller <Rear>

(22) Revision of the DVD mechanism controller [M : * . * * *]

Revision number of the external ROM part (flash ROM) of the DVD mechanism controller

(23) Control and part numbers of the GUI-ROM [GUI : * * * *]

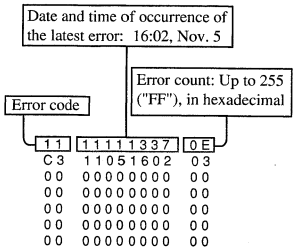
No GUI model displays as "—— / ——".
OEM model displays the part number of GUI-ROM [GUI : * * * *]

7.1.2 Display of the Error History

- The type, date and time, and the number of occurrences of errors of the player can be recorded.
  Up to 8 types of errors can be recorded, and the number of occurrences can be counted up to 255 per error type.
  The date and time of the latest error is recorded per type. The date and time are based on the real-time clock built into the player.

  If the real-time clock has not been set or the setting is wrong, the dates and times of occurrence recorded will be those of the clock at that time.

- An example of the error history display is shown below:
  Example of the error history display



- In the above example, two types of errors are recorded, and six other types of errors can be further recorded. In the above two cases (error codes "11" and "C3"), the error history will be recorded until their error count becomes "FF."

- The data of the error history can be cleared if the number of error types reaches eight or the number of errors reaches 255. After the data of the error history are cleared, new errors can be recorded. (Cleared data of the error history cannot be restored. It is recommended that the data of the error history be written down before clearing.)

How to display the error history

- Press the ESC, TV/LDP, then SIDE A keys on the remote control unit for service use, in that order.

How to clear the data of the error history

- While the error history is displayed, press the CLEAR key on the remote control unit for service use.

Display of power-on and playback duration

- The power-on duration and playback duration of the player can be recorded.

See below for how to display power-on and playback duration.

- Power-on duration: Accumulated power-on duration of the player.

- Playback duration: Accumulated playback duration of the player. Duration is counted even in Pause and Still modes. This playback duration can be considered to be the spindle motor's duration of rotation or duration of use of the laser diode.

Note: The power-on duration and playback duration are measured using the CPU clock of the player, so you should allow for about 2% error. Use these displays merely as a guide for servicing.

- The data of the power-on and playback duration are not cleared if the player's software upgrade is downloaded from the dedicated web site.
  (As for the DVD-V700, the data of the power-on and playback duration are cleared when the player's software is upgraded.)

How to display power-on and playback duration

- While pressing the DISPLAY key of the main unit, set the POWER switch to ON. (This is also explained in the Operating Manual.)

7.1.3 ERROR CODE TABLE

• ERRORE CODE

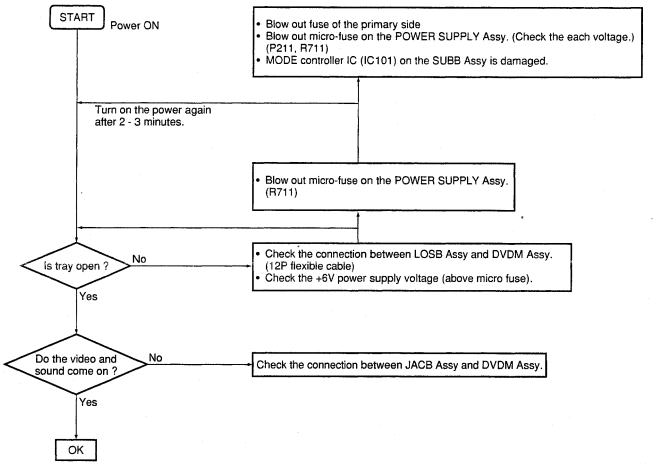
Error code	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
11	Search timeout	Search could not be complete within 7 seconds.	Search could not be complete within 7 seconds, and it could not enter the target area within 7 seconds by VCD scan.	CD : Stops, DVD: Continues operation
12	Search retry error	A search could not be completed after 3 retries, search backup was executed 4 times, or in a case of timeout (6 seconds) while the unit was tracing 11 tracks or more beyond the target while the search operation was converging.	Backup against slider skip was executed 4 times during a search, or slider skip twice resulted in starting from the read-in point.	CD: Stops, DVD: Continues operation
19	Tracing timeout while converging	Timeout (10.5 seconds) while tracing at the stage of convergence of a search.		Stop
1B	Index 0 search error		During Track (Index) Search, the search for the beginning of a program could not be completed within 3 seconds (20 seconds in the case of Index Search) after positioning based on the TOC data was completed.	Stop
22	Timeout of slider inner circumference	Inside switch could not ON within 3 seconds.		Stop
23	Timeout of slider outer circumference	Inside switch could not OFF within 2 seconds.		Stop
33	No FOK pulse during playback CLVA	When the focus was deviated continuously 20 times.		Adjusts focus at the innermost circumference and tries to return to its position where the error was generated (for 3 times),then opens. If the same error persists after one retry, the tray opens. (No FOK pulse)
38	Disc-type-sensi-ng error	If normal starting was impossible in the following three cases, disc-type sensing will be retried if other errors occure excepting C5 error. However, when the focus error "33" was occured continuously 3 times, it is finished as "38 error" at the moment: (1) startup with the first disc-type-sensing result, (2) forced startup with another disc by designating the disc type, (3) forced startup with the original disc by designating the disc type.		Open

Error code	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
39	SGC converge timeout	SGC could not converge during detects the peak		Open
41	Spindle timeout	The unit did not enter Stop mode within 10 seconds of issuance of a Stop command.		Stop
48	Spindle FG transition timeout	The spindle could not converge into within ± 12% of the target FG rotation speed within 10 seconds after spindle kick. The first time after startup (the first time after disc distinction), it doesn't become the number of the target rotation within five seconds. The first time after startup, detects the abnormal rotation number of high-speed continuously 3 loops. DVD: 5 to 9 mS , CD: 40 to 60 mS		Stops. (FG timeout)
49	Spindle PLL transition timeout	After the second times after startup, it doesn't become the number of the target rotation within five seconds. Detects the abnormal high-speed or low-speed rotations. DVD: 5 to 9 mS , CD: 40 to 60 mS		Stops. ("73" is displayed during starting process.)
4A	Spindle lock timeout	Spindle could not lock more than 1.5 seconds before start the AFB.		Stops. ("73" is displayed during starting process.)
51	Auto sequence timeout of peak detection	ABUSY did not return within 1 second after the DDTCT (peak detection) command was sent.		Stop
52	Auto sequence timeout of focus jump down	ABUSY did not return within 30 mS after the FJMPD (Focus jump 1 to 0) command was sent.		Stop
53	Auto sequence timeout of focus jump up	ABUSY did not return within 30 mS after the FJMPU (Focus jump 0 to 1) command was sent.		Stop
54	Auto sequence timeout of play AGC	ABUSY did not return within 50 mS after the GSUMON (play-AGC-measuring) command was sent.		Stop
55	Auto sequence timeout of disc-type-sensing	ABUSY did not return within 2 seconds after the DJSRT (disc-sensing) command was sent.		Stop
56	Auto sequence timeout of ATB2	ABUSY did not return within 1 second after the TBLOFS (Internal ATB after the completion of external ATB) command was sent.		Stop
57	Auto sequence timeout of tracking servo ON	ABUSY did not return within 500 mS after the TSON (tracking servo ON) command was sent.		Stop
58	Auto sequence timeout of ATB1	ABUSY did not return within 200 mS after the TBL (external ATB) command was sent.		Stop
59	Auto sequence timeout of focus gain adjustment	ABUSY did not return within 2 seconds after the FGN (focus gain adjustment) command was sent.		Stop
5A	Auto sequence timeout of tracking gain adjustment	ABUSY did not return within 2 seconds after TGN (tracking gain adjustment) command was sent.		Stop
5B	Auto sequence timeout of offset adjustment	ABUSY did not return within 1 second after the CMDAVE (offset adjustment) command was sent.		Stop
5C	Auto sequence timeout of modulation factor measurement	ABUSY did not return within 200 mS after the ADJMIR (modulation factor measurement) command was sent.		Stop
5D	Auto sequence timeout of auto focus bias	ABUSY did not return within 2 seconds after the AFB (auto focus bias) command was sent.		Stop
5F	Auto sequence already busy	A command could not be sent because ABUSY was low. ABUSY did not return within 200 mS after TLV command was sent.		Stop
62	Pause retry error	Pause mode could not be restored within three retries after it had been released.		Continues operation

Error code	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
71	ID can not read during tracing	An ID could not be read for 1 second or more.		Stop
72	Subcode check failure during playback		No frame could be read for 3 seconds or more.	Stop
73	ID can not read at the startup	An ID could not be read within 1 second after the AFB adjustment had been finished.		Opens (ID readout failure)
74	Subcode check failure during startup		No subcode could be read within 3 seconds after AFB adjustment had been finished.	Opens (Subcode readout failure).
81	Timeout for reading TOC of the mechanism controller		TOC readout took 30 seconds or more.	Stop
82	Timeout for reading TOC of the system controller		Reading TOC of the system controller took 30 seconds or more.	Stop
A1	Communication timeout of DSP command	A command could not be issued to DSP because Command Busy (XCBUSY) was in force (XCBUSY = L) for a specified time (about 200 µS).		No operation
A2	Communication timeout for reading DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 200 µS) before and after a coefficient read command was issued to DSP, or the address echo-back after command issuance did not match the setup address.		No operation
A3	Communication timeout for writing DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 1024 mS) before and after the coefficient write command was issued to DSP.		No operation
A4	Communication timeout for continuously writing DSP coefficient	Command Busy (XCBUSY) was in force for 200 µS during continuous coefficient writing, or before and after a continuous write command was issued to DSP.		No operation
B1	Timeout error for backup	In the tracing state during the backup sequence, codes could not be read for 1 second or more. In the backup sequence, tracking ON sequence of the servo DSP could not be completed even if more than 500 mS after the tracking ON command was issued.		Stops
B2	Retry error for backup	Tracing impossible after retring the tracking ON for 3 times in the backup sequence.		Stops
B3	Retry error for trace	During tracing, runaway was detected after three iterations of backup operations for detecting runaway.		Stops
C3	Detection of tracking overcurrent	During playback, the overcurrent detection port was at L for 300 ms or more continuously.		Stops (the mechanical controller operates independently).
(C5)	Short-circuit test corresponding error	While the power was on, the overcurrent detection port was at L for 40 ms or more continuously.		Turns off the power instantly (No indication on the FL display and no writing to flash memory)
E3	Violation against digital copy guard			Stops
F5	Tray being pushed	The tray switch that had been Open mode was forcibly changed to a mode other than Open by an external force.		Closes
F8	Loading timeout	Loading, unloading or clamping could not be completed within a specified time (about 5 seconds).		Reverses the loading direction. If timeout is repeated upon retry, the unit stops.
FC	Focus	The following error occured eight times. (1) Focus ON sequence could not be completed even if more than two seconds after the focus ON command (to the servo DSP) was sent. (2) Focus IN sequence was finished, actually focus IN was not completed.		Stops wherever possible then opens (stops in the case of side B).

7.1.4 TROUBLE SHOOTING

• No Power ON



7.1.5 SERIAL CONTROL

1. Serial Interface Specifications

■ Signal Interface

The signal interface is a standard RS-232C connection.

■ Data Type

Data Length: 8 bit
Stop Bit: 1 bit
Parity bit: No Parity

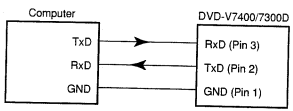
■ Data Transfer Speed (Baud Rate)

The data transfer speed may be set to either 4800 or 9600 baud through the Industrial player menu screen and/or with the Advanced Feature Menu Set command (please refer to the DVD-V7400/V7300D Operating Instructions and the Advanced Feature Menu Set command description).

NOTE: The factory default is 4800 baud; however, the player memorizes the transfer speed each time the power is cycled.

2. Communication with a Computer

The DVD-V7400/V7300D communicates to the computer through the player's RS-232C port using pins 2 and 3 for communication and Pin 1 for grounding. Control or "handshaking" lines other than the TxD and RxD connections are not required. Please refer to the diagram below for clarification.



Some computers require the CTS port to be set to HIGH during communication. It is best to connect the CTS port on the computer to the DTR port on the player. During normal operation the player's DTR is set to HIGH thus the unit is able to receive a command at any time.

3. Command and Status

During normal operation, a computer transmits commands to a DVD-V7400/V7300D and the player responds with the status message, 'execution complete'.

Example:

COMPUTER		DVD-V7400/V7300D
(1) "Search to Frame 1000"	➡	(2) Search Execution
	⬅	(3) Complete
(4) "Play to Frame 2000"	➡	(5) Play Execution
	⬅	(6) Complete

NOTE: The length of a command string is limited to 32 characters. Please refer to COMMAND STRUCTURE for additional information.

When using a computer to control the DVD-V7400/V7300D player, follow the command protocols listed below:

- ASCII characters are used for actual commands and status response
- Command mnemonic is expressed as two (2) ASCII characters
- Uppercase letters are recommended; however, usually there are no distinctions between the uppercase and lowercase letters
- Some commands require an argument (e.g. chapter number or speed)
- Use a command as the terminator of an argument

The player executes a command as soon as the carriage return <CR> is received. The <CR> acts as the command line terminator.

Example:

CH<CR> : Set chapter for address mode
10SE<CR> : Search to chapter 10

The player has a command buffer, which stores a command string of up to 32 characters in length.

Example:

10SE 20PL<CR> : Search to chapter 10 then play to 20

The command string enters the buffer with the left character and continues sequentially from left to right. When the <CR> is entered, the commands are executed sequentially beginning with the first command in the buffer. In the example above, the first command is 10SE.

NOTE: The player ignores codes in the command string such as <SPACE> or <LF> (line feed) which do not affect the player's operation.

NOTE: Some commands, sent after a specialty command which includes an AUTOSTOP setting, (PL, MF, MR, etc.), cause the player to execute the new command before the AUTOSTOP is enacted.

When all the commands in a string have finished executing, the player transmits or returns the "complete" message.

The player returns an R after a command has been executed. This response is called the Automatic Status. The Automatic Status signals the computer program to send the next command. If this function is not used, the command processing time must be taken into consideration before the next command is sent.

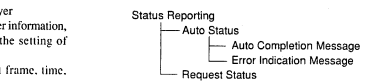
If an error occurs, the player returns an error message such as E04. The message indicates an error has occurred as well as the type of error. Error messages are in the form of EXX where XX represents a 2-digit error code.

In some cases, an incorrect command sends the player to search within a non-recorded area and the player returns an error message. Use the Request Status function to determine the unit's current status (actual player hardware failures are rare).

Apply one of the following methods to reset the player after an error has occurred:

- Use ?P to determine the Active mode of the player
- Use ?X, ?W, ?M, ?H, ?H ?S to determine the player information, model name, clock time, player region code, the setting of Industrial Player Menu, etc.
- Use ?F, ?T, ?C, or ?R to determine the current frame, time, chapter, title/track number, respectively.
- Use ?V, ?D, ?K, ?G, ?Y, or ?Q to determine the disc information, disc type, total frame number, TOC information, etc.

The status functions are summarized below:



4. Error Messages

If an error occurs during a command execution, the player returns an error code. The table below lists each code with a description of the error:

Code	Message	Description
E00	Communication error	Communication Line Error due to framing error or buffer overflow
E04	Feature not available	Non-Usable Function has been tried - either the command mnemonic is wrong or the command can not be used in this mode
E06	Missing argument	Correct parameter is not specified
E11	Disc does not exist	There is no disc in the tray
E12	Search error	Search address is missing Read error of Text File; (When the command [UU] is executed)
E15	Picture stop	Playback has been stopped by a picture stop code while in the Auto Play mode
E16	Interrupt by other device	The command(s) sent via the serial line were not executed before commands were sent from the front panel buttons and/or remote control Forced end of the data transfer while Text File sends to PC (When the command [UU] is executed)
E99	Panic	Unrecoverable Error occurred - possible that a disc cannot be loaded and/or playing does not continue

5. Initial Setting

The following table provides the default internal register and switch settings. Take care to set each to the required parameters when creating an application program.

Register/Switch	Setting at Power ON
Key Lock	2 : If set to 2 power is OFF 0 : All other cases
Video Switch	1 : ON
Audio Switch	3 : Audio 1
Display Switch	0 : OFF
Address mode	1 : Time
Speed Parameter	30 : 1/2 Speed
CCR	3 : Mode 3
Register A	3 : Title/Chapter and Frame Display (DVD) Track/Time Display (CD, VCD)
Register B	0 : Normal Squelch
Register D	0 : CR

6. COMMAND STRUCTURE

The DVD-V7400/V7300D supports the commands listed below.

COMMAND		SUPPORTING FORMATS			
Name	Mnemonic	DVD	LB comp. DVD	CD	VCD
Open	OP	X	X	X	X
Close	CO	X	X	X	X
Reject	RJ	X	X	X	X
Start	SA	X	X	X	X
Play	(adrs) PL	X	X	X	X
Pause	PA	X	X	X	X
Still	ST	X	X		X
Step Forward	SF	X	X		X
Step Reverse	SR	X	X		
Scan Forward	NF	X	X	X	X
Scan Reverse	NR	X	X	X	X
Scan Stop	NS	X	X	X	X
Multi-Speed Forward	(adrs) MF	X	X		X
Multi-Speed Reverse	(adrs) MR	X	X		
Speed	arg SP	X	X		X
Search	adrs SE	X	X	X	X
Search & Play *1	adrs SL	X	X	X	X
Stop Marker	adrs SM	X	X	X	X
Lead Out Symbol	LO	X	X	X	X
Clear	CL	X	X	X	X
Frame	FR	X	X		
Block Number	BK			X	X
Time	TM	X	X	X	X
Chapter	CH	X	X		
Title	TI	X	X		
Index	IX			X	X
Track	TR			X	X
Select Subtitle	arg SU	X	X		
Select Audio	arg AU	X	X		
Select Aspect	arg AP	X	X		
Select Angle	arg AG	X	X		
Select Parental-Level	arg PT	X	X		
Audio Control	arg AD	X	X	X	X
Video Control	arg VD	X	X	X	X
Display Control	arg DS	X	X	X	X
Keylock	arg KL	X	X	X	X

COMMAND		SUPPORTING FORMATS			
Name	Mnemonic	DVD	LB comp. DVD	CD	VCD
Stack Group Set	arg GP	X	X		
Barcode / Command Stack Play	arg BS	X	X		
Video Blackboard Display	arg VS	X	X		
Video Blackboard Clear	arg CB	X	X		
Blackboard/Stack Data Upload*1	BU	X	X	X	X
Blackboard/Stack Data Download*1	BD	X	X	X	X
Weekly Timer Data Upload*1	WU	X	X	X	X
Weekly Timer Data Download*1	WD	X	X	X	X
Text File Data Upload*1	UU	X	X		
Current Address Request	?A	X	X	X	X
Title/Track Number Request	?R	X	X	X	X
Chapter Number Request	?C	X	X		
Time Code Request	?T	X	X	X	X
Index Number Request	?I			X	X
Frame Number Request	?F	X	X		
Block Number Request	?B			X	X
Total Frame Request	?Y	X	X		
TOC Information Request	?Q			X	X
Disc Region Code Request	?G	X	X		
DVD Disc Status Request	?V	X	X		
LD Disc Status Request	?D		X		
CD Disc Status Request	?K			X	X
Register A Set (Display)	arg RA	X	X	X	X
Register B Set (Squelch)	arg RB	X	X	X	X
Register D Set (TxD Term) *1	arg RD	X	X	X	X
Print Character	arg PR	X	X	X	X
Clear Screen	CS	X	X	X	X
Real Time Clock Set	WW	X	X	X	X
Advanced Feature Menu Set *1	arg MS	X	X	X	X
Communication Control Set	arg CM	X	X	X	X
Player Active Mode Request	?P	X	X	X	X
Player Model Name Request	?X	X	X	X	X
Real Time Clock Request	?W	X	X	X	X
Advanced Feature Menu Request*1	?S	X	X	X	X
Player Region Code Request	?H	X	X	X	X
CCR Mode Request	?M	X	X	X	X

COMMAND		SUPPORTING FORMATS			
Name	Mnemonic	DVD	LB comp. DVD	CD	VCD
Input Number Request	?N	X	X	X	X
Error Code Request	?E	X	X	X	X
Input Unit Request	#i	X	X	X	X
Input Barcode Data Request	#B	X	X	X	X
Register A Request	$A	X	X	X	X
Register B Request	$B	X	X	X	X
Register D Request*1	$D	X	X	X	X
Menu Call*2	arg MC	X	X		
Numeric Button*2	arg NB	X	X		
Button Select*2	arg CU	X	X		

COMMAND		SUPPORTING FORMATS			
Name	Mnemonic	DVD	LB comp. DVD	CD	VCD
ENTER Button*2	(arg) ET	X	X		
Get Information*2	arg GI	X	X		

NOTE: Commands prefaced with an *1 are supported by firmware Version 2.00

NOTE: Commands prefaced with an *2 are supported by firmware Version 2.20

NOTE: A command with an argument or address parameter is prefaced by arg (argument) or ards (address). If the arg or ards is in parentheses ( ), the parameter is optional.

■ Command Mnemonic

Each command is expressed as two (2) ASCII characters. There is no distinction between uppercase and lowercase letters except when the Character strings are in a PR command.

NOTE: Do not issue a command without a Text File Data Upload [UU], Reject [RJ] or Open [OP] sequence while the video text is displayed. A command issued without one of these sequences causes the player to return an error code E04.

■ Argument

An argument is expressed in either ASCII characters or ten digits and consists of either an address or an integer. A Control Register uses an integer value to set a specified value or condition.

If a command requires an argument, it is always placed before the command.

Example : N1N2N3
Minimum 000 ~ Maximum 300 (except MS command)
Minimum 000 ~ Maximum 520703 (Only MS command)

NOTE: If a command requires an argument but one is not supplied, the player returns an error message.

An Address can be a title, a chapter, a track, an index number, a frame number, or a time code depending upon how the address flag is set. The Address must not exceed ten characters and/or digits.

Address Type	Media Type	Format	Range (Min – Max)
Title Number	DVD	N_1 N_2	0 – 99
Chapter Number	DVD	N_1 N_2	0 – 99
Frame Number	DVD/VCD	N_1 N_2 N_3 N_4 N_5 N_6 N_7 [a]	0 – 1079999
Time Code	DVD	N_1 N_2 N_3 N_4 N_5 [b]	0 – 59959
	CD/VCD	N_1 N_2 N_3 N_4 [c]	0 – 9959
Track Number	CD/VCD	N_1 N_2	1 – 99
Index Number	CD/VCD	N_1 N_2	1 – 99
Block Number	CD/VCD	N_1 N_2 N_3 N_4 N_5 N_6 [d]	0 – 995974

[a] N_4 N_5 N_6 minutes N_4 N_6 seconds are calculated into frame number.
[b] N_1 N_2 N_3 minutes N_4N_5 seconds.
[c] N_1 N_2 minutes N_3 N_4 seconds.
[d] N_1 N_2 minutes N_3 N_4 seconds N_5 N_6 block.

■ Command String

A command string consists of multiple commands on one line. The maximum length of a command string is 32 characters. All command strings are terminated by the Carriage Return <CR> code (0DH hex).

Example : FR2000SE 2300PL<CR>

NOTE: The Real Time Clock Set [WW] , Print Character [PR], Blackboard/Stack Data Upload [BU], Blackboard/Stack Data Downtoad [BD], Weekly Timer Data Upload [WU], Weekly Timer Data Download [WD], Text File Data Upload [UU] commands should be assigned individually.

Once the <CR> termination command is added to the string, the command string is evaluated and executed from left to right in sequential order.

If an error occurs during the execution of a String, the remainder of the string following that command is not executed.

If a new command string is input before the execution of the current string is complete, the current string is aborted and the remaining commands are cleared.

To cancel a currently executing string, send the termination command <CR> alone.

If a new command without Text File Data Upload [UU] is input while playing the current command stack, the remaining commands are cleared.

■ Status Returns

The completion message used in the Automatic Status is "R".

Example: R<CR>

■ Error Message

An error message is indicated by the letter E and followed by a two-character error code.

Example: EN1N2<CR>

The error message occurs when the given command cannot be processed.

■ Request Status Return

In response to a single request command, the status returns as a line of letters terminated by <CR>.

If multiple request commands are sent to the player within the same String, the player returns a separate status value upon completion of each command. A status value is a character string with a <CR> termination code.

Example: ?C?F<CR> ➡ 02<CR>
10260<CR>

When the request command is at the end of the command string, the R within the completion message is omitted.

Example:
ST?F<CR> ➡ 23005<CR> (completion omitted)

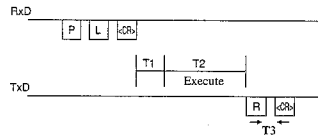
Example:
?FST<CR> ➡ 23005<CR>R<CR> (not omitted)

■ Timing

The time it takes to receive a command and return a Status Value is defined as follows:

T1 represents the time from when the termination of the String <CR> is received to the beginning of the execution of the command extension. The maximum is approximately 24ms.

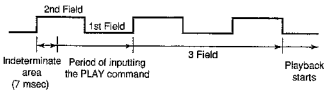
T2 represents the time it takes to execute the command. Depending upon the command type and the player's condition, the minimum is 14ms.



■ Playback in External Sync Mode

In External Sync mode, the player synchronizes the transition from the reception of a PL (PLAY) command to playback or from Still mode to playback with a Vertical Sync signal for simultaneous start of multiple players. Therefore, the timing for starting playback can be controlled by the timing of sending the PL command to the players, as described below.

Playback starts from the first field, which is located three fields after the PL command was received in video Still mode. The indeterminate area is a 7-msec period from the beginning of a second field. If a CR at the end of the PL command falls into this indeterminate area, the timing of the start of playback will be either as shown below or one frame before.



The PL command in External Sync mode is the only command to be executed in synchronization with the Vertical Sync signal.

7.1.6 PARALLEL CONTROL

1. External Switch Control

To control the player through the Serial Interface Connector, use a switching circuit with pins terminated to a +5 volts DC / internal 20,000 ohms resistor.
To activate a function, create a switch contact with an electrical ground (Pin 1). Check Chapter 2 to verify pin (Pin 6 through Pin 13) and terminal (SW1 ~ SW8) assignments.

2. Function Assignment

Each function of the external option switch is greatly classified into three.

1. Key which calls and executes group of bar code/command stack
- Stack grop1-27 of the function is key which executes command stack which registers (MEMORY key + ENTER) in the remote control key.

2. The one to do the same function as key to remote control unit. (↑ ↓ → ←ENTER,PLAY,STOP,PAUSE,STEPFORWARD,STEP REVERSE,SCANFORWARD,SCAREVERSE,SKIPFORWARD,SKIP REVERSE,DISPLAY,RECALL,MEMORY,REPEAT ,REPEAT A-B,AUDIO,ANGLE,SUBTITLE,MENU,TOP MENU,SETUP,0-9,>10,CLEAR RETURN,TITLE/CHP/FRM/TIME)
However, scan fwd/rev is different from a remote control, and the function of the scanning lock is not provided.

3. The one that key to remote control unit was extension
- Function key ↗↘↙↖(movable of diagonal cursor at video Blackboard).
- 10-20 of function keys (When the menu is selected the search. f igures up to 20 are specified directly).
- Open/close of function key.

Diode Assignment List

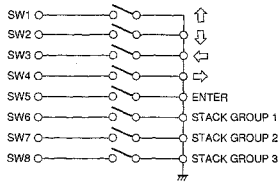
Function	SW1 ↑	SW2 ↓	SW3 ←	SW4 →	SW5 ENTER	SW6 X	SW7 Y	SW8 Z
↑	X							
↓		X						
←			X					
→				X				
ENTER					X			
STACK GROUP1						X		
STACK GROUP2							X	
STACK GROUP3								X
↗	X			X				
↘		X		X				
↙		X	X					
↖	X		X					
PLAY					X	X		
STOP					X		X	
PAUSE					X			X
STEP FORWARD					X	X	X	
STEP REVERSE					X	X		X
RETURN					X		X	X
OPEN/CLOSE	X	X						
DISPLAY			X	X				
SCAN FORWARD	X	X	X					
SCAN REVERSE	X	X		X				
SKIP FORWARD	X		X	X				
SKIP REVERSE		X	X	X				
1	X					X		
2		X				X		
3			X			X		
4				X		X		
5	X						X	
6		X					X	
7			X				X	
8				X			X	
9	X							X
10		X						X
11			X					X
12				X				X
13	X	X				X		
14	X		X			X		
15	X			X		X		

Function	SW1 ↑	SW2 ↓	SW3 ←	SW4 →	SW5 ENTER	SW6 X	SW7 Y	SW8 Z
16		X	X			X		
17		X		X		X		
18			X	X		X		
19	X					X	X	
20		X				X	X	
STACK GROUP4 *			X			X	X	
STACK GROUP5 *				X		X	X	
STACK GROUP6 *	X	X					X	
STACK GROUP7	X		X				X	
STACK GROUP8	X			X			X	
STACK GROUP9		X	X				X	
STACK GROUP10		X		X			X	
STACK GROUP11			X	X			X	
STACK GROUP12	X						X	X
STACK GROUP13		X					X	X
STACK GROUP14			X				X	X
STACK GROUP15				X			X	X
STACK GROUP16	X	X						X
STACK GROUP17	X		X					X
STACK GROUP18	X			X				X
STACK GROUP19		X	X					X
STACK GROUP20		X		X				X
STACK GROUP21			X	X				X
STACK GROUP22	X					X		X
STACK GROUP23		X				X		X
STACK GROUP24			X			X		X
STACK GROUP25				X		X		X
STACK GROUP26						X	X	
STACK GROUP27						X		X
TOP MENU *							X	X
MENU *						X	X	X
RECALL	X				X	X		
SETUP	X				X		X	
MEMORY	X				X			X
>10		X			X	X		
REPEAT		X			X		X	
REPEAT A–B		X			X			X
AUDIO			X		X	X		
ANGLE			X		X		X	
SUBTITLE			X		X			X
T/TLE/CHP/FRM/TIME				X	X	X		
0				X	X		X	
CLEAR				X	X			X

■ Controller

Examples of Switch and Diode specifications are charted below.

Simple Circuit



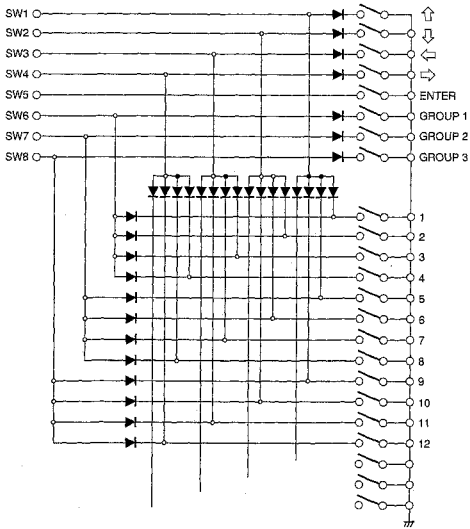
Switch Specifications

On Resistance ..... Less than 1 Ω
Off Resistance ..... More than 1 MΩ
Type ..... Non-Locking

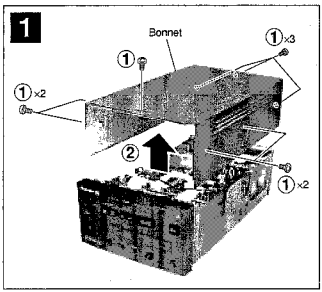
Diode Specifications

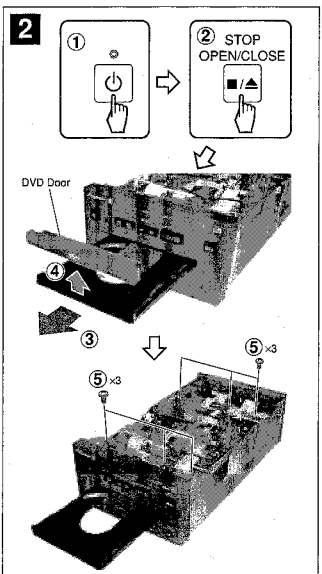
Forward Voltage Drop (VF) ..... Less than 0.7 (IF 1ma)
Surge Forward Current (IFSM) ..... Less than 100ma
Forward Current ..... Less than 10a

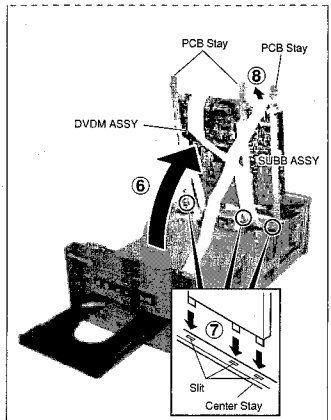
Diode Matrix Circuit

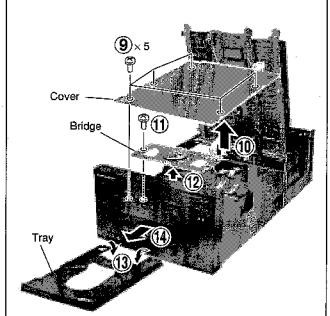


7.1.7 DISASSEMBLY





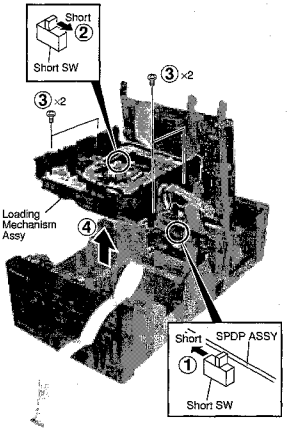




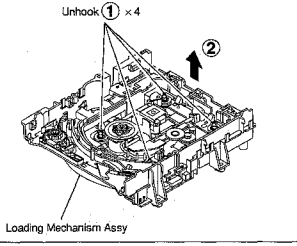
3

Notes when unit is exchanged.
Be short-circuited of Short SW before connected in mechanism cable is removed. The laser diode is protected from static electricity.

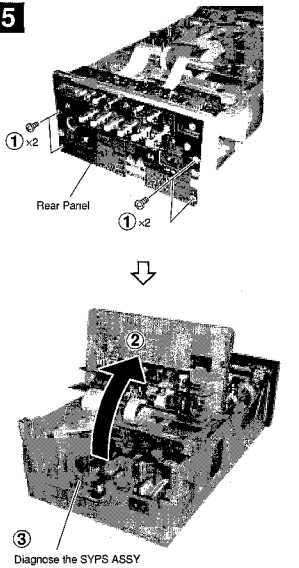
Please open Short SW before the player does power supply on when the repair of the unit exchange etc. is completed.
The player cannot reproduce when Short SW is short.



4 TRAVERSE MECHANISM ASSY-S



5



7.2 PARTS

7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

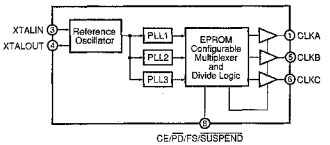
•List of IC

CY2081SL-655, PD3410A, DYW1662, M65773AFP

■ CY2081SL-655 (DVDM ASSY : IC21)

• Clock Generate IC

• Block Diagram



• Pin Function

No.	Pin Name	Pin Function
1	CLKA	Configurable clock output
2	GND	Ground
3	XTALIN	Reference crystal input of external reference clock input
4	XTALOUT	Reference crystal feedback
5	CLKB	Configurable clock output
6	CLKC	Configurable clock output
7	VDD	Voltage supply
8	OE/$\overline{PD}$/FS/ SUSPEND	Output control pin; either active-HIGH output enable, active-LOW power down, CLKA frequency select, or active-LOW suspend input

■ PD3410A (DVDM ASSY : IC601)

• System Control IC

• Pin Function

No.	Mark	Pin Name	I/O	Function
1	XCS3/XCASL	XCS3	O	PD4995A (MY CHIP) chip select signal output
2	GND	GND	–	GND
3	CK	HCPUCK	O	
4	VCC	V+3D	–	V+3D
5	PICLK	–	I/O	N.C.
6	PIDATA	–	I/O	N.C.
7	GND	GND	–	GND
8	PORTH0	XCSSP0	O	HC74VHCT595FT (Shift register with output latch)
9	PORTH1	33MVH	O	CY2071ASL-371 (Clock generator)
10	PORTH2	36MVH	O	BU2185F (Clock generator)
11	PORTH3	V_SEL2	O	Composite/S switching signal output of the skirt terminal
12	VCC	V+3D	–	V+3D
13	PORTH4	SCTAON	O	
14	PORTH5	27MVH	O	27MHz oscillation control circuit
15	PORTH6	XCSSPD	O	HC74VHCT595FT (Shift register with output latch)
16	PORTH7	XAUDRST/ VPOFF/ ECHO	O	YSS922 (Dolby AC-3/Pro logic, audio DSP built-in DTS decoder) Video system
17	GND	GND	–	GND
18	EXTAL	EXTAL	I	Connect a ceramic resonator
19	XTAL	XTAL	O	
20	VCC	V+3D	–	V+3D
21	PORTG0	XCSDF0	O	DAC chip select signal output
22	PORTG1	XCSDF1/ XCSDASP	O	YSS912 (Dolby AC-3/Pro logic, audio DSP built-in DTS decoder) AD1853 (3D audio processor) TC74VHC595FT (Serial/parallel) → SM5847AF (DAC for Mch) YSS922 (DASP)
23	PORTG2	XCSDF2/ DFRST1/ XMIC_ON	O	YSS912 (Dolby AC-3/Pro logic, audio DSP built-in DTS decoder) SM5847AF (DAC for Mch)
24	PORTG3	HIBSEL	O	PD00236AM
25	PORTG4	LFEON/ DFRST0	O	Buffer → Audio amp SM5847AF (DAC for Mch)
26	GND	GND	–	GND
27	PORTG5	6CHMD/ XMAOFF	O	Buffer → Front DAC selector
28	PORTG6	DTSMD/ XMRST/ XDASP	O	SW (Switch circuit)
29	PORTG7	XAMUTE/ XMUTM	O	Last stage mute signal output of the audio
30	PORTF0	44X48	O	DAC 44/48 FS switching signal output
31	PORTF1	DI_ERR/ XDIGIO	I	DIR1700 (Digital audio interface receiver)
32	PORTF2	3DON/ XMMUTE/ 48X44	O	3D audio ON/bypass switching signal output
33	VCC	V+3D	–	V+3D
34	PORTF3	XCSADSP0/ SYNC1	O	DSP56362 (Audio DSP)
35	PORTF4	XCSADSP1/ XAVS_RT/ DISC	O	DSP56362 (Audio DSP)
36	PORTF5	XCSADSP2/ DPOS/ODD	O	DSP56362 (Audio DSP)

No.	Mark	Pin Name	I/O	Function
37	PORTF6	XVQERST/ XANR	O	Analog NR ON/OFF switching signal output
38	PORTF7	XCSVE/ XCSVQE	O	Serial communication enable signal output of the video encoder
39	GND	GND	–	GND
40	AVSS	GND	–	GND
41	AVCC	V+3D	–	V+3D
42	OUTA_P	LODRV	O	Loading drive output
43	VREF	V+3D	–	V+3D
44	OUTB_P	TEI	O	Tracking offset signal output
45	AVSS	GND	–	GND
46	AVSS	GND	–	GND
47	PORTE0	V_SEL	O	Component/composite switching signal output
48	PORTE1	CDGM	I	PDC016A (Graphic IC)
49	PORTE2	OEM???	I	
50	PORTE3	FOFST1	I/O	Focus offset adjustment output 1
51	PORTE4	FOFST2	I/O	Focus offset adjustment output 2
52	PORTE5	XDFINH	I/O	Defect shunt signal output
53	PORTE6	DVD/XCD	O	DVD/CD switching signal output
54	PORTE7	LD1_ON	O	650 nm laser diode ON signal output
55	PORTD0	LD2_ON	O	780 nm laser diode ON signal output
56	VCC	V+3D	–	V+3D
57	PORTD1	DPD/TE	O	1 beam/3 beams switching signal output
58	PORTD2	AGOFF	O	AGC ON/OFF switching signal output of RF IC
59	PORTD3	XCD2X	O	Signal output for switching the double speed playback
60	PORTD4	OEICG	O	OEIC gain switching signal output
61	GND	GND	–	GND
62	PORTD5	XMON	O	Control output ON/OFF switching output of the spindle motor
63	PORTD6	XBCA	O	
64	PORTD7	OPEN_SW/ X???RST	I	Mechanism connector
65	PORTJ0	XDRVMUT	O	Driver mute output
66	PORTJ1	DR/XLD	O	TC7W53F (Analog SW)
67	PORTJ2	XDSPRST	O	LC78652W (Servo DSP)
68	PORTJ3	MNJACK/ MC_MO	I	Mini jack connection check pin
69	VCC	V+3D	–	V+3D
70	PORTJ4	TM_ENT	I	Test mode input
71	PORTJ5	XEXPE	O	TC74VHCT574F/FS (3-state buffer)
72	PORTJ6	VSEL_SW	I	Component/composite SW input
73	PORTJ7	DQSY	I	
74	PB0/TIOCA2	XCBUSY	I	Command busy input
75	PB1/TIOCB2	XABUSY	I	Auto-sequence busy input
76	PB2/TIOCA3	XINT2/ XAVIRQ2	I	Interrupt input 2 (AV-1)
77	VCC	V+3D	–	V+3D
78	PB3/TIOCB3	LT1	O	Communication response signal output to the FL controller
79	PB4/TIOCA4	SBSY	I	Subcode block sync. input
80	XMTEST	–	I	V+3D
81	XCPUMD	–	I	V+3D
82	XRES	XRESET	I	Reset input

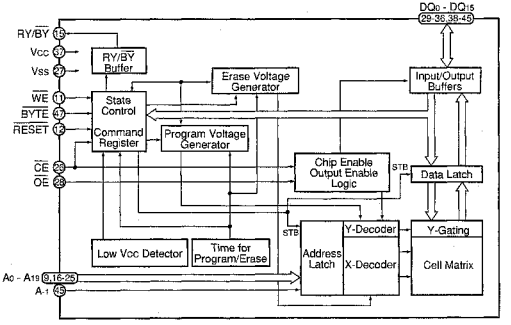
No.	Mark	Pin Name	I/O	Function
83	GND	GND	–	GND
84	AN0	LODPOS	I	Loading position input
85	AN1	SLDPOS	I	Slider position input
86	AN2	DOORSW	I	Mecha. connector
87	AN3	NAP_SW	I	NTSC/AUTO/PAL SW input
88	AN4		I	
89	AN5		I	
90	AN6		I	
91	AN7	525IP_SW	I	
92	Avref	V+3D	–	V+3D
93	AVCC	V+3D	–	V+3D
94	AVSS	GND	–	GND
95	PB5/TIOCB4	DIBLK/HFL/ DCNT2	I	DIR1700 (Digital audio interface receiver) LC78652W (Servo DSP)
96	PB6/TIOCXA4/TCLKC	C2F	I	C2 error input
97	PB7/TIOCXB4/TCLKD	XRDY	I	Communicatio request input from the FL controller
98	PB8/RxD0	SSI	I	Serial data input (FL controller)
99	PB9/TxD0	SSO	O	Serial data output (FL controller, DAC)
100	VCC	V+3D	–	V+3D
101	PB10/RxD1	RXD	I	Data input of the RS-232C
102	PB11/TxD1	TXD	O	Data output of the RS-232C
103	PB12/XIRQ4/SCK0	SSCK	I/O	Serial clock output (FL controller, DAC)
104	PB13/XIRQ5/SCK1	XIRQL10	I	Interrupt input 1 (MY CHIP)
105	GND	GND	–	GND
106	PB14/XIRQ6	XIRQL11	I	Interrupt input 2 (MY CHIP)
107	PB15/XIRQ7	XINT0/ XAVIRQ0	I	Interrupt input 0 (AV-1)
108	PA0/XCS4/TIOCA0	XCS4	O	Servo DSP chip select signal output
109	PA1/XCS5/XRAS	N.C.	O	Non connection
110	PA2/XCS6/TIOCB0	XCS8	O	AV-1 chip select signal output
111	XWAIT	XWAIT	I	Wait signal input
112	XWRL	XWRL	O	Write pulse output L
113	GND	GND	–	GND
114	XWRH	XWRH	O	Write pulse output H
115	XRD	XRD	O	Read pulse output
116	PA7/XBACK	XCURDET	I	Over-current detection signal input
117	PA8/XBREQ	CTS	I	RS-232C transfer permit input
118	PA9/XAH/XIRQOUT/ XADTRG	DTR	O	RS-232C transfer permit output
119	PA10/DPL/TIOCA1	XAVIRQ1/ XINT1	I	Interrupt input 1 (AV-1)
120	PA11/DPH/TIOCB1	THLD	I	Tracking hold signal input
121	VCC	V+3D	–	V+3D
122	PA12/XIRQ0/DACK0/ TCLKA	DACK0	O	DMA response output (MY CHIP)
123	PA13/XIRQ1/ XDREQ0/TCLKB	XDREQ0	I	DMA request input (MY CHIP)
124	PA14/XIRQ2/XDACK1	XDACK1	O	DMA response output (AV-1)
125	PA15/XIRQ3/XDREQ1	XDREQ1	I	DMA request input (AV-1)
126	AD0	D0	I/O	Data bus 0

No.	Mark	Pin Name	I/O	Function
127	GND	GND	–	GND
128	AD1	D1	I/O	Data bus 1
129	AD2	D2	I/O	Data bus 2
130	AD3	D3	I/O	Data bus 3
131	AD4	D4	I/O	Data bus 4
132	AD5	D5	I/O	Data bus 5
133	AD6	D6	I/O	Data bus 6
134	VCC	V+3D	–	V+3D
135	AD7	D7	I/O	Data bus 7
136	AD8	D8	I/O	Data bus 8
137	AD9	D9	I/O	Data bus 9
138	AD10	D10	I/O	Data bus 10
139	GND	GND	–	GND
140	AD11	D11	I/O	Data bus 11
141	AD12	D12	I/O	Data bus 12
142	AD13	D13	I/O	Data bus 13
143	AD14	D14	I/O	Data bus 14
144	VCC	V+3D	–	V+3D
145	AD15	D15	I/O	Data bus 15
146	A0 (XHBS)	A0	O	Address bus 0
147	A1	A1	O	Address bus 1
148	A2	A2	O	Address bus 2
149	GND	GND	–	GND
150	A3	A3	O	Address bus 3
151	A4	A4	O	Address bus 4
152	A5	A5	O	Address bus 5
153	A6	A6	O	Address bus 6
154	A7	A7	O	Address bus 7
155	A8	A8	O	Address bus 8
156	A9	A9	O	Address bus 9
157	A10	A10	O	Address bus 10
158	A11	A11	O	Address bus 11
159	A12	A12	O	Address bus 12
160	A13	A13	O	Address bus 13
161	A14	A14	O	Address bus 14
162	A15	A15	O	Address bus 15
163	A16	A16	O	Address bus 16
164	A17	A17	O	Address bus 17
165	VCC	V+3D	–	V+3D
166	A18	A18	O	Address bus 18
167	A19	A19	O	Address bus 19
168	A20	A20	O	Address bus 20
169	A21	A21	O	N.C.
170	XNMI	XNMI	I	V+3D
171	GND	GND	–	GND
172	XCS10	XCS10	O	VHCT574F/FS (3-state buffer)
173	XCS20	XCS20	O	Chip select signal output of the flash ROM
174	XCS22	XCS22	O	(GUI ROM)
175	XCS23	XCS23	O	Chip select signal output of the SRAM
176	XCS2		O	N.C.

■ DYW1662 (DVDM ASSY : IC603)

- 16M bit Flash Memory IC

● Block Diagram



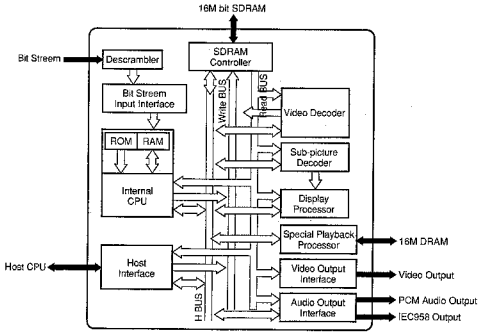
● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	A15	I	Address inputs	25	A0	I	Address input
2	A14			26	$\overline{CE}$	I	Chip enable
3	A13			27	VSS	–	Ground
4	A12			28	$\overline{OE}$	I	Output enable
5	A11			29	DQ0	I/O	Data inputs/outputs
6	A10			30	DQ8		
7	A9			31	DQ1		
8	A8			32	DQ9		
9	A19			33	DQ2		
10	N.C.	–	Non connection	34	DQ10		
11	$\overline{WE}$	I	Write enable	35	DQ3		
12	$\overline{RESET}$	I	Hardware reset pin/Temporary sector unprotection	36	DQ11		
13	N.C.	–	Non connection	37	VCC	–	Power supply
14	N.C.	–	Non connection	38	DQ4	I/O	Data inputs/outputs
15	RY/$\overline{BY}$	O	Ready/Busy output	39	DQ12		
16	A18	I	Address inputs	40	DQ5		
17	A17			41	DQ13		
18	A7			42	DQ6		
19	A6			43	DQ14		
20	A5			44	DQ7		
21	A4			45	DQ15/A-1	I/O	Data inputs/outputs / Address input
22	A3			46	VSS	–	Ground
23	A2			47	$\overline{BYTE}$	I	Selects 8-bit or 16-bit mode
24	A1			48	A16	I	Address input

■ M65773AFP (DVDM ASSY : IC801)

- **MPEG2 Decoder IC**

- **Block Diagram**



- **Pin Function**

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	GND	I	Ground	21	5VDD	I	5V power supply
2	HD0	I/O	Data input and output port	22	HD15	I/O	Data input and output port
3	HD1			23	CS	I	Chip select signal input
4	HD2			24	RE	I	Read Enable signal input
5	HD3			25	WE	I	Write Enable signal input
6	HD4			26	BHE	I	Byte High Enable signal input
7	5VDD	I	5V power supply	27	RDY	O	Acknowledge signal which is indicated the finish of data reading or writing via the host bus
8	VDD	I	Power supply	28	INTR	O	Interrupt request signal against to the external CPU from M65773FP
9	HD5	I/O	Data input and output port	29	GND	I	Ground
10	HD6			30	HA0	I	Address input port
11	HD7			31	HA1		
12	HD8			32	HA2		
13	HD9			33	HA3		
14	GND	I	Ground	34	HA4		
15	HD10	I/O	Data input and output port	35	VDD	I	Power supply
16	HD11			36	5VDD	I	5V power supply
17	HD12			37	HA5	I	Address input port
18	HD13			38	HA6		
19	HD14			39	HA7		
20	VDD	I	Power supply	40	HA8		

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
41	HA9	I	Address input port	83	VDD	I	Power supply
42	GND	I	Ground	84	VSYNC	O	Vertical sync. signal output
43	CDMCK	I	Connect to ground	85	HSYNC	O	Horizontal sync. signal output
44	CDLRCK	I	L/R clock clock input from CDDSP	86	PICSTRT		
45	CDBCK	I	PCM bit clock input from CDDSP	87	MBSTRT		
46	CDDATA	I	Digital audio interface input	88	MBDATA		
47	VDD	I	Power supply	89	GND	I	Ground
48	CDDIN	I	PCM audio data input from CDDSP	90	PWD	O	Phase comparator output for external sync. operation
49	INT2	O	Interrupt request signal against to the external CPU from M65773FP	91	CSYNC	I	Composite SYNC signal input
50	INT3			92	OSDKEY	O	OSD key flag output
51	DREQ	O	DMA request signal for OSD bitmap transfer	93	PXCLK	O	Pixel clock (27MHz free-running clock)
52	DACK	I	DMA acknowledge signal for OSD bitmap transfer	94	VDD	I	Power supply
53	GND	I	Ground	95	PD7	O	Digital pixel data
54	CLKO	O	27MHz clock output	96	PD6		
55	CLKIN	I	System clock input	97	PD5		
56	AVDD1	I	Analog power supply	98	PD4		
57	AGND1	I	Analog ground	99	GND	I	Ground
58	AGND3			100	PD3	O	Digital pixel data
59	AVDD3	I	Analog power supply	101	PD2		
60	CCAP	I	Connect to ground	102	PD1		
61	AGND2	I	Analog ground	103	PD0		
62	AVDD2	I	Analog power supply	104	VDD	I	Power supply
63	ACLKO	–	Open	105	GND	I	Ground
64	ACLKI	I	Audio clock input	106	RESET	I	Hardware reset input
65	HMODE1	I	Setting pin of host interface operating mode	107	TEST0	I	Connect to ground normally
66	GND	I	Ground	108	TEST1		
67	VDD	I	Power supply	109	TEST2		
68	AOD	O	PCM output of audio data	110	VDD	I	Power supply
69	AO2			111	NMD0	I/O	Data transfer line with DRAM
70	AO1			112	NMD15		
71	AO0			113	NMD1		
72	GND	I	Ground	114	NMD14		
73	DOUT1	O	Digital audio interface output	115	GND	I	Ground
74	DOUT0			116	NMD2	I/O	Data transfer line with DRAM
75	SDA	–	Open	117	NMD13		
76	SCL	–	Open	118	NMD3		
77	VDD	I	Power supply	119	NMD12		
78	GND	I	Ground	120	VDD	I	Power supply
79	DACCLK	O	Over-sampling operating clock output	121	NMD4	I/O	Data transfer line with DRAM
80	DOCLK	O	PCM bit clock output	122	NMD11		
81	LRCLK	O	Clock output for discriminating the channel (L/R) of PCM audio data	123	NMD5		
82	HMODE0	I	Setting pin of host interface operating mode	124	NMD10		

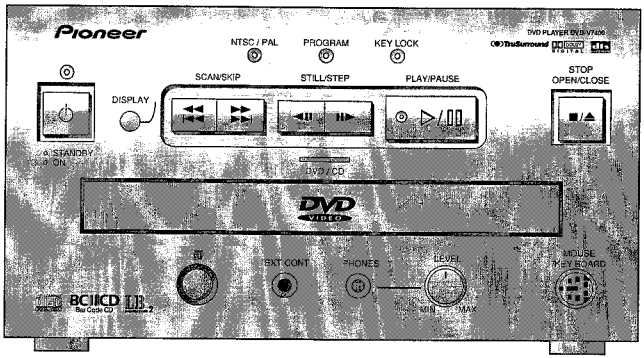
No.	Pin Name	I/O	Pin Function
125	GND	I	Ground
126	NMD6	I/O	Data transfer line with DRAM
127	NMD9		
128	NMD7		
129	NMD8		
130	VDD	I	Power supply
131	NCAS0	O	CAS (Column Address Strobe) control line of DRAM
132	NWE	O	WE control line of DRAM
133	NCAS1	O	CAS (Column Address Strobe) control line of DRAM
134	NRAS	O	RAS (Row Address Strobe) control line of DRAM
135	GND	I	Ground
136	NMA9	O	Address line with DRAM
137	NMA8		
138	VDD	I	Power supply
139	NMA0	O	Address line with DRAM
140	NMA7		
141	NMA1		
142	NMA6		
143	GND	I	Ground
144	NMA2	O	Address line with DRAM
145	NMA5		
146	NMA3		
147	NMA4		
148	VDD	I	Power supply
149	BD7	I	Bit stream input port
150	BD6		
151	GND	I	Ground
152	BD5	I	Bit stream input port
153	BD4		
154	BD3		
155	BD2		
156	VDD	I	Power supply
157	GND	I	Ground
158	BD1	I	Bit stream input port
159	BD0		
160	BCLK	I	Strobe signal (clock) of BD port
161	BDEN	I	Indicates the effective or invalid data which is sampled from BD port
162	BDREQ	O	Output permission signal against to the device (channel decoder) which connecting to BD port
163	VDD	I	Power supply
164	MA3	O	Address line with SDRAM
165	MA4		
166	MA2		

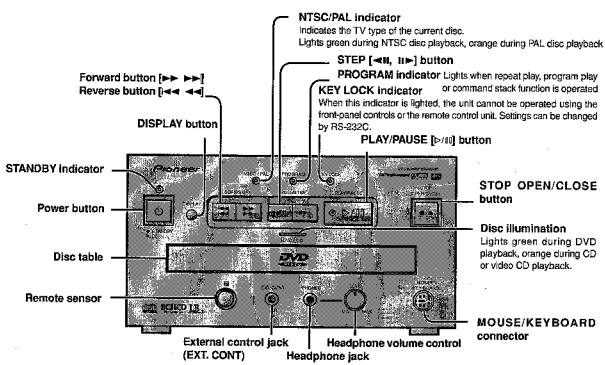
No.	Pin Name	I/O	Pin Function
167	MA5	O	Address line with SDRAM
168	GND	I	Ground
169	MA1	O	Address line with SDRAM
170	MA6		
171	MA0		
172	MA7		
173	VDD	I	Power supply
174	MA10	O	Address line with SDRAM
175	MA8		
176	MA11		
177	MA9		
178	GND	I	Ground
179	DCS	O	Chip select of SDRAM
180	RAS	O	RAS (Row Address Strobe) control line of SDRAM
181	CAS	O	CAS (Column Address Strobe) control line of SDRAM
182	VDD	I	Power supply
183	MCLK	O	Operation clock of SDRAM
184	GND	I	Ground
185	DWE	O	WE control line of SDRAM
186	DQMU	O	DQM control line of SDRAM Use for mask of upper byte output.
187	DQML	O	DQM control line of SDRAM Use for mask of lower byte output.
188	VDD	I	Power supply
189	MD7	I/O	Data transfer line with SDRAM
190	MD8		
191	MD6		
192	MD9		
193	GND	I	Ground
194	MD5	I/O	Data transfer line with SDRAM
195	MD10		
196	MD4		
197	MD11		
198	VDD	I	Power supply
199	MD3	I/O	Data transfer line with SDRAM
200	MD12		
201	MD2		
202	MD13		
203	GND	I	Ground
204	MD1	I/O	Data transfer line with SDRAM
205	MD14		
206	MD0		
207	MD15		
208	VDD	I	Power supply

8. PANEL FACILITIES AND SPECIFICATIONS

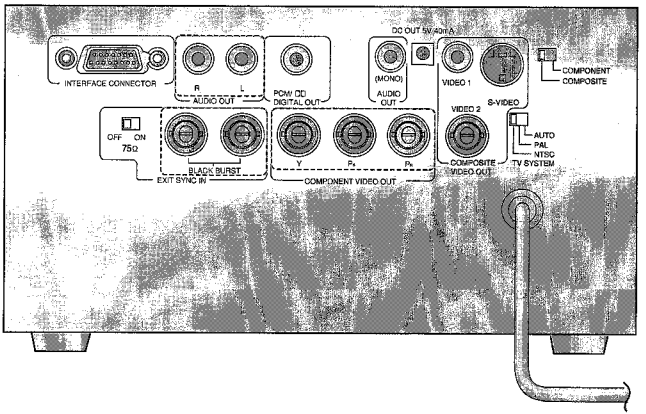
8.1 PANEL FACILITIES (FOR DVD-V7400/KU/CA)

■ Front Panel

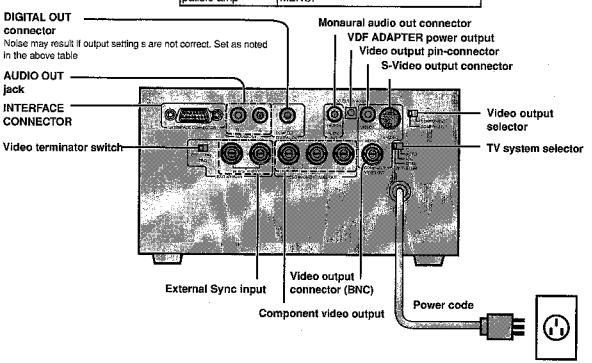




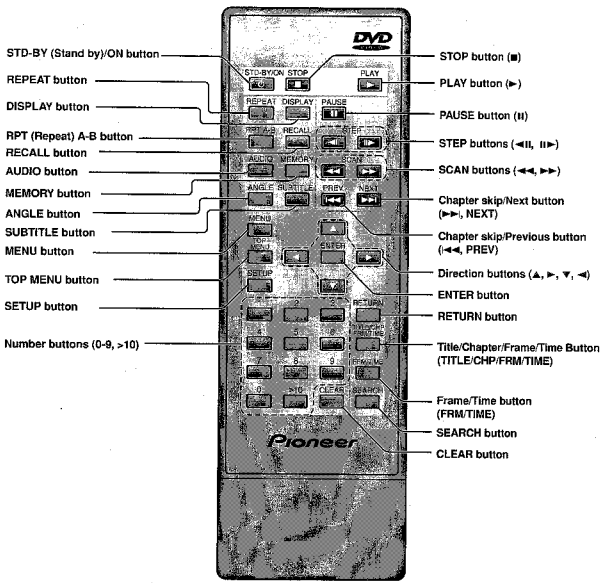
■ Rear Panel



Your amp	Settings
Regular AV amp	Select [Dolby Digital ► PCM] from the SETUP MENU.
Dolby Digital compatible amp	Select [Dolby Digital] from the SETUP MENU.



■ REMOTO CONTROL UNIT



8.2 SPECIFICATIONS

■ SPECIFICATIONS (FOR DVD-V7400/KU/CA)

General

System ..... DVD system , Compact Disc digital video and Compact Disc digital audio system
Power requirements ..... AC 120 V, 50/60 Hz
Power consumption ..... 16 W
Power consumption in standby mode 0.5W
Weight ..... 4.7 kg (10.6 lb)
Dimensions ..... 210 (W) x 408 (D) x 119 (H) mm ..... (8 1/4 × 16 1/8 × 4 11/16 in.) ..... (Not including protruding cables, etc.)
Operating temperature ..... +5°C to +35°C (+41°F to +95°F)
Operating humidity ..... No more than 85% (no condensation)

Video Output

Output level ..... 1 Vp-p ..... (75Ω when loaded, synchronous negative)
Jacks ..... BNC, RCA

S-Video Output

Y (luminance) - Output level ..... 1 Vp-p (75Ω)
C (color) - Output level ..... 286 mVp-p (75Ω)

Component video Output

Y - Output level ..... 1 Vp-p (75Ω) BNC
P_B - Output level ..... 0.7 Vp-p (75Ω) BNC
P_R - Output level ..... 0.7 Vp-p (75Ω) BNC
S/N ratio ..... more than 60 dB
Horizontal resolution ..... more than 500

External synchronizing input

Input signal level ..... Black burst ..... 0.3 Vp-p (75Ω) BNC x 2 (loop through)

Audio Output

Output level
During audio output ..... 200 mVrms (1 kHz, –20 dB)
Number of channels 2
Frequency response ..... 4 Hz to 22 kHz (DVD fs: 48 kHz) ..... 4 Hz to 20 kHz (CD)
S/N ratio ..... 115 dB (EIAJ)
Dynamic range ..... 98 dB (EIAJ)
Wow and flutter ..... ±0.001% W. PEAK or lower (EIAJ)

Other Terminals

Coaxial digital output (PCM/ DD) ..... RCA jack
Communication interface (RS-232C) ..... D-SUB, 15-pin

Accessories

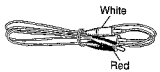
Audio cord 1
Video cord 1
Remote control unit 1
AA (R6P) dry cell batteries 2
Laser barcode Sheet 1
RF adaptor set clamp 1
Screw 1
Operating Instructions 1
Warranty card 1

NOTES:

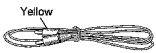
- All values listed in these specifications are standard values.
- The specifications and design of this product are subject to change without notice, due to improvement.

■ Accessories

Audio cord (L=1.5m)
(VDE1033)



Video cord (L=1.5m)
(VDE1048)



AA/R6P batteries
(VEM-013)

Operating instructions
Warranty card

Remote control unit
(CU-V162): DXX2448